ATTACHMENT 11

RES - *CONCEPT MITIGATION PLAN FOR THE PROPOSED GREEN RIDGE RECYCLING AND DISPOSAL FACILITY*

REVISED APRIL, 2021

RES - *PROJECT LOCATION MAP*

DATED OCTOBER 14, 2020

Concept Mitigation Plan

for the Proposed Green Ridge Recycling and Disposal Facility

Cumberland County, Virginia

Prepared for:
Green Ridge Recycling and Disposal Facility, LLC
12230 Deerhill Road
Midlothian, VA 23112

Submitted to:
United States Army Corps of Engineers Norfolk District
Regulatory Branch
Richmond Field Office
9100 Arboretum Parkway
Suite 235
Richmond, VA 23236

Virginia Department of Environmental Quality
Central Office
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Richmond, VA 23219

August 2020
Revised April 2021

Prepared by:

1408 B Roseneath Rd.
Richmond, VA 23230

Table of Contents

1.0 Introduction

Green Ridge Recycling and Disposal Facility, LLC (Applicant) presents this Concept Mitigation Plan (Plan) for compensatory mitigation for unavoidable stream impacts associated with the proposed Green Ridge Recycling and Disposal Facility (Project) in the following Hydrologic Unit Code (HUC): 02080205 Middle James – Willis.

This Plan is prepared in accordance with the Compensatory Mitigation for Losses of Aquatic Resources; Final Rule issued on April 10, 2008, as detailed in §332.4 (c) of the Federal Register (Volume 73 Number 70).

The Applicant has completed field surveys, analyzed and confirmed impacts, and will secure appropriate compensatory mitigation in accordance with the approach outlined below. As such, the Applicant has prepared this Plan with precise details on compensatory mitigation for the affected HUC, in accordance with the requirements of an Individual Permit (IP) for the proposed Project within the Norfolk District.

Unavoidable permanent impacts to streams will occur to accommodate fill and grading for the proposed landfill cell, stormwater management facilities, construction of an entrance road and relocation of Miller Lane and Pine Grove Road.

The Applicant will compensate for the permanent loss of streams for the Project through the use of the most environmentally preferable options consistent with the 2008 Mitigation Rule (33 CFR 332.1 et. seq.), the Virginia Code Wetland and Stream Mitigation section (VA Code § 62.1-44.15:23, the Virginia Water Protection Permit Program Regulations (9VAC25-210-116), and current availability.

Permanent losses of streams are proposed to be evaluated using the United Stream Methodology (USM) in order to assess what the stream compensation requirements are for the permitted stream impacts. Additionally, USM will be used to decide the amount of credits obtainable through the implementation of stream compensation practices.

The cumulative permanent impacts associated with the Project and compensation requirements are provided in Table 1 below.

Table 1: Project Impact Summary

Resource Type	Amount	Compensation Ratio	Mitigation Requirement
Stream	10,951 LF	USM Forms	**10,613 SCUs**

1.1 Mitigation Banks

The Applicant looked to purchase commercially available mitigation credits from an IRT-approved mitigation bank as a first option. Where available in sufficient quantity to satisfy the respective mitigation need, in-kind mitigation bank credits would be purchased from mitigation banks with released credits servicing the impact areas where the permanent loss of streams would occur.

The Applicant has completed research to identify mitigation banks with available stream credits that are able to service the permanent impacts associated with the Project. Based on that research and as provided in the Joint Permit Application (JPA), it was determined that stream credits from mitigation banking were not sufficient at the time of submittal to serve the needs of this project. The Regulatory In-lieu Fee and Bank Information Tracking System (RIBITS) was reviewed to determine credit availability. At the time of review, RIBITS showed that there were 19,003.9 stream credits available to serve this project. However, further communications with the Lone Oak Stream Mitigation Bank showed that the existing 9,492 stream credits from this mitigation bank were under contract and not available for purchase. With these credits unavailable to purchase, there are not enough stream credits available for purchase to support this Project. Additionally, scheduled releases are not enough to provide this Project with the needed credits to achieve the no net loss for the anticipated stream impacts. Accordingly, additional mitigation options detailed below were evaluated.

1.2 In-Lieu Fee Fund

In addition to contacting approved mitigation banks for available credits, the Applicant coordinated with The Nature Conservancy (TNC) for availability of advance stream credits through the Virginia Aquatic Resource Trust Fund (VARTF) in-lieu fee fund. TNC indicated through correspondence that while advanced stream credits were available within the Middle James, there are not enough to service the entire need for this project.

1.3 Permittee Responsible Mitigation

Through the above-mentioned credit availability research and anticipation of depleting availability of stream credits in the watershed, it was documented that while stream credits from banks currently appear show availability to support the project need, purchases that are under contract will diminish the credits available to point that there will not be enough stream credits available within the service area to provide for the needs of this project. Additionally, while advance stream credits are available through the VARTF ILF, there are not enough credits to serve the need of this proposed project.

Under these circumstances, and pursuant to Virginia Regulations (VA Code § 62.1-44.15:23 and 9VAC25-210-116), Permittee Responsible Mitigation (PRM) represents the most ecologically preferable option, and potentially the only mitigation alternative capable of ensuring no net loss of aquatic resources given the ILF and bank credit supply limitations addressed above. As such, instead of purchasing credits through both mitigation banks and ILF, the Applicant's proposed mitigation plan for the Project will be to secure appropriate stream mitigation via implementation of PRM in accordance with an approved PRM plan. Permittee Responsible Mitigation allows for on-site and in-kind mitigation, that will allow for the credits to come from one source, as opposed to two different mitigation types and multiple banks.

After a thorough search of the surrounding watershed, the proposed Project site was identified as an excellent candidate PRM site due to the presence of residual stream preservation opportunities on the Project site, and the restoration and enhancement of viable stream reaches that are present on the adjacent parcels. Additionally, the available restoration, enhancement, and preservation opportunities on this site will provide more mitigation crediting than is needed for this project. The proposed PRM plan can provide

up to 16,172 credits which is 5,559 more than what is required to achieve no net loss. More information on the crediting provision of this PRM plan are detailed in further sections below.

The Final Rule (72 FR 19601) states that in general, in-kind mitigation is preferable to out-of-kind mitigation because it is more likely to compensate for the functions and services lost at the impact site. In addition, the District Engineer (DE) must use a watershed approach to establish compensatory mitigation requirements in permits to the extent appropriate and practicable. A watershed approach considers the importance of landscape position and resource type of compensatory mitigation projects for the sustainability of aquatic resource functions within the watershed. The main objective of this approach is to maintain and improve the quantity and quality of wetlands and other aquatic resources in watersheds through strategic selection of compensatory mitigation project sites. The DE may authorize the use of compensatory mitigation projects when an applicant has proposed to create, enhance or restore an outstanding resource and has provided sufficient scientific and technical analysis to demonstrate that such a project will be successful.

The proposed PRM for the Project will provide an opportunity to enhance, restore, and preserve stream channels in the immediate vicinity of the proposed Project impacts in the Muddy Creek watershed, essentially providing on-site mitigation for the Project. Furthermore, the location of the proposed PRM site relative to the Project's impacts will ensure compensation for the lost functions and services and further restore and protect the drainage area of Muddy Creek. As such, due to the large scale of the proposed impacts, the estimated surplus of credits that can be provided in the drainage area along with anticipated shortage of commercially available stream credits in the larger watershed, the proposed PRM should be ecologically preferable over Bank credits and to limit risks with temporal loss of ecosystem functions with VARTF advanced credits.

2.0 Mitigation Plan

2.1 Goals and Objectives

The objective of the proposed PRM is to provide compensatory mitigation for proposed impacts in HUC 02080205 associated with the Project. The goal of the PRM is to restore, enhance, and preserve the streams and riparian buffers within the Green Ridge Recycling and Disposal Facility project area and on the adjacent properties. The proposed restoration design will create a more ecologically functional channel pattern, profile, and cross section. This will include channel realignment, in stream bed structures, bank stabilization methods, and native vegetation planting. Enhancement reaches will be restored using minimally invasive techniques, working with the existing alignment and adding biotic (living and dead wood) structures within the channel to re-establish a bed profile that facilitates overbank flooding in larger storm events combined with selective bank grading. Aggradational processes are predicted to raise the bed elevation, ultimately reconnecting the stream to its floodplain over time. Preservation streams will remain unaltered, except for bolstering the riparian plantings where needed.

2.2 Site Selection

During the feasibility review on the Green Ridge Recycling and Disposal Facility project area and adjacent properties, streams were assessed and sorted by mitigation type. The proposed stream restoration reaches

were chosen based on the level of degradation and the potential ecological lift forecasted with three parameter natural channel design. Restoration reaches are typically moderately incised streams that lack bed form diversity and are disconnected from their floodplains. The proposed stream enhancement reaches include streams that were moderately degraded in need of adjustments in one or two of the natural channel design parameters (pattern, dimension, and profile). Degradation may be localized and distributed in selected areas throughout the corridor versus a more systemwide degradation as found in the restoration streams. The proposed preservation streams are either in good condition or are in fair condition but located within an intact riparian buffer and therefore the temporal loss of construction impacts is not justification for the limited ecological lift that would be associated with mechanized work in these areas.

2.3 Site Protection Instrument

The site will be protected in perpetuity by recordation of a Declaration of Restrictions (DOR). Draft DOR documents, are provided in Attachment A. The final DOR exhibits will be prepared upon final design and provided in the Final PRM plan.

2.4 Baseline Site Information

The PRM site is located on various parcels, with varying land uses and cover. The project is situated along and east of Pinegrove Road (State Route 654), approximately 2 miles north of the town of Clinton, Virginia (HUC 02080205). The proposed PRM site is a broad, flat to gently sloping sections of mostly undeveloped land. Most of the project area is forested, while some sections have been cleared of trees and are maintained as fields or for various agricultural uses. Evidence of recent timbering was noted in areas across the project. There are several streams and wetlands located within the project area, which are shown in the Conceptual Mitigation Plan. Surrounding land-use is similarly a mix of agricultural use and forested habitat.

The streams within the proposed PRM project area are impacted by historic land clearing and agriculture practices, resulting in reduced infiltration and increased overland runoff entering the stream channels. The amplified flow and shear stress accelerated the rate of incision in the channel bed, resulting in floodplain disconnection. Incision progressed until bedrock was hit, then the erosive flows began impacting the margins, widening the channels and eroding the banks. Sections of riparian buffer have reforested, but many channels have been left in a state of arrested degradation. Recent timbering has exacerbated headcutting within the headwater tributaries, dumping sediment into the larger reaches downstream. By a combination of stream restoration, light touch enhancement, riparian plantings, and preservation, the overall system can be guided along the channel evolution cycle to a more stable and ecologically functioning stage.

2.5 Determination of Credits

Proposed stream mitigation credits were determined using the Unified Stream Methodology. The Preliminary USM forms used for crediting calculations can be found in Attachment C. This project has the ability to provide up to 16,172 stream credits (5,765 credits of stream restoration, 5,565 credits of stream enhancement, and 4,842 credits of stream preservation). A breakdown of the stream mitigation crediting is summarized below in Table 2. The proposed credit requirement for the Green Ridge Disposal and Recycling Facility project is 10,613 stream credits, and as such should be fully serviced by this PRM.

Table 2: Stream Mitigation Crediting

Reach ID	Mitigation Type	Total Compensation Credit
ST1R1	Enhancement	685
ST1R2	Enhancement	1270
ST1T1	Enhancement	67
ST1T2	Enhancement	283
ST1T3	Enhancement	503
ST2R1	Preservation	82
ST2R2	Restoration	1897
ST2T1	Preservation	88
ST3R1	Enhancement	657
ST3R2	Restoration	1310
ST3R3	Enhancement	854
ST3T1	Enhancement	94
ST3T2R1	Enhancement	299
ST3T2R2	Preservation	21
ST3T2R3	Restoration	516
ST3T3	Enhancement	108
ST3T4	Enhancement	113
ST3T5	Restoration	2042
ST3T6	Preservation	40
ST4R1	Enhancement	336
ST4R2	Enhancement	296
ST4R3	Preservation	132
Muddy Creek	Preservation	716
Landfill	Preservation	3763
Total Credits:		**16,172**

Final credit determinations will be provided upon construction and as-built survey to verify that the total stream mitigation constructed provides sufficient credits to fulfill the credit requirement and will be further verified based on the areas meeting the required success criteria as approved as part of the Final Mitigation Plan.

2.6 Conceptual Mitigation Work Plan

The Conceptual Mitigation Plan Set is provided in Attachment B and the Preliminary USM Forms are provided in Attachment C.

2.7 Monitoring Requirements

Please see Section I. in the Draft Monitoring and Maintenance Plan in Appendix F.

2.8 Performance Standards

Please see Section I.B. in the Draft Monitoring and Maintenance Plan in Appendix F.

2.9 Maintenance Plan

Please see Section II. in the Draft Monitoring and Maintenance Plan in Appendix F.

2.10 Invasive, Nuisance, and Undesirable Species Management Plan

Please see Section III. in the Draft Monitoring and Maintenance Plan in Appendix F.

2.11 Adaptive Management Plan

Please see Section IV. in the Draft Monitoring and Maintenance Plan in Appendix F.

2.12 Preliminary Financial Assurances

Please see Section V. in the Draft Monitoring and Maintenance Plan in Appendix F.

2.13 Long-Term Management Plan

The Draft Long-Term Management Plan can be found in Appendix G.

Attachment A

Draft Declaration of Restriction Documents

DRAFT

DECLARATION OF EASEMENTS AND RESTRICTIONS

OF

SUNNY MARTIN AGEE & EDWARD RAY MARTIN

CUMBERLAND COUNTY, VIRGINIA

THIS DECLARATION OF EASEMENTS AND RESTRICTIVE COVENANTS is made this _____day of _____, 2020, by SUNNY MARTIN AGEE and EDWARD RAY MARTIN (the "**Owner**").

WHEREAS, the owner is the owner of the Property, rights and interests more fully described on Exhibit A attached hereto (the "Property"); it being a portion of the Property conveyed to Owner, by deed from Roberts Samuel Martin, Jr., dated June 6, 2018, and duly recorded in the Clerk's Office of the County of Cumberland in Deed Number 201800599 on 293.254 acres, thereby resting ½ undivided interest in SUNNY MARTIN AGEE and ½ undivided interest in EDWARD RAY MARTIN;

WHEREAS, by one or more agreements (together the "**_____Agreement**") by and between the Owner and Green Ridge Recycling and Disposal Facility LLC, ("**Green Ridge Landfill**" – the **"Developer"**): (a) the Developer agreed to provide compensatory mitigation to Green Ridge Landfill utilizing a portion of the Property; and (b) the Owner agreed to: (i) permit Developer to develop stream mitigation on the Property; (ii) to grant Developer and others the necessary licenses and easements to construct and maintain stream mitigation on the Property; and (iii) to enter into restrictive covenants in order to protect the stream mitigation areas, all as more particularly set forth in the _____Agreement.

WHEREAS, USACE regulations, at 33 C.F.R. § 332.7, require that the aquatic habitats, riparian areas, buffers, and uplands that comprise an overall compensatory mitigation project (the Mitigation Area) must be provided long-term protection through a real estate instrument, such as this Declaration;

WHEREAS, Owner desires to impose on said Property easements and restrictive covenants expressing Owner's intent to preserve 63.5 acres, more or less, of said Property as shown on Exhibit B and as described as the "Conservation Easement Area" (the "**Mitigation Area**") in perpetuity in its natural state as detailed below which easements and covenants shall run with and bind the Mitigation Area and are imposed by Owner freely and voluntarily, in order to provide compensation for aquatic impacts pursuant to U.S. Army Corps of Engineers ("**Corps**" or "**USACE**") Permit No. _____.

WHEREAS, Owner obtained authorization through Virginia Department of Environmental Quality ("**DEQ**") Permit Number _____ issued on _____, by the DEQ in accordance with State Water Control Law Sections 62.1-44.5 and 62.1-44.15:20 for impacts to State Waters.

WHEREAS, on account of the fact that the Property will serve as compensation for such above-referenced impacts, the USACE and DEQ are third-party beneficiaries under this Declaration of Easements and Restrictions ("Declaration").

NOW THEREFORE THIS DECLARATION WITNESSETH: Owner does hereby declare, covenant and agree, for itself and its successors and assigns, that the Mitigation Area as shown on Exhibit B, shall be hereafter held, leased, transferred, and sold subject to the following conditions and restrictions which shall run with the land and be binding on all parties and persons claiming under them.

Covenants and Restrictions: Preservation Area

Owner shall ensure that this Declaration is recorded in the land records of Cumberland County, and shall ensure that this Declaration is indexed against the land records for the Property. Owner shall ensure that these Covenants and Restrictions run with the Property in perpetuity and be binding on Owner and its successors, assigns, lessees, and any other occupiers or users of the Property.

Owner declares, for itself and its successors and assigns, that the Mitigation Area shall hereafter be held exclusively for conservation purposes, unless otherwise provided herein.

That portion of the Property described as the Mitigation Area and shown on Exhibit B attached hereto shall be preserved in perpetuity in its natural state, by **prohibiting** the following activities:

1. Destruction or alteration of the Mitigation Area shown on Exhibit B other than those alterations expressly authorized in writing by the Norfolk District, USACE, or DEQ, *provided that* the following activities are **allowed**:

    i. Alteration necessary to ensure the success of the Mitigation Area including monitoring, reconstruction or maintenance of the constructed Mitigation Area, as approved by the USACE and DEQ;

    ii. Alteration to construct structures such as walkways, boardwalks, foot trails, wildlife observation or management structures, benches, observation decks, picnic tables, fence posts, and ecological, biological, hydrological or chemical monitoring, observation or management equipment including, without limitation, monitoring wells, or interpretive stations, or other structures as approved by the USACE and DEQ, provided that:

        1. any such structures permit, and do not impede, the natural movement of water, and

        2. structures and/or facilities do not alter the physical, biological, or chemical nature of the protected resource and/or its protected buffer

3. such facilities are constructed and maintained in accordance with all applicable federal and state laws;

iii. Addition of signs constructed in public rights of way by or on behalf of the Virginia Department of Transportation or other governmental agencies;

iv. Removal of vegetation (where not precluded by federal or state law) when approved by the USACE and DEQ and conducted for:

1. Removal of noxious or invasive plants; or

2. Public safety purposes

v. Planting of native species of plants by hand for aesthetic landscaping or screening purposes; and

vi. Alteration as reasonably necessary to comply with state or federal law or appropriate court order.

2. Construction, maintenance or placement of any structures or fills (other than those which currently exist) including but not limited to buildings, mobile homes, fences, signs or other permanent structures that include but are not limited to stream crossings, camp sites, hunting blinds and/or target shooting structures without prior express written approval of the USACE and DEQ. However, boardwalks, wildlife management structures, observation decks, one informative sign, and unpaved foot trails may be placed within the Mitigation Area provided that any such structure does not alter streams, permits the natural movement of water and preserves the natural contour of the ground and subject to prior express written approval by the USACE and DEQ;

3. Ditching, land clearing or discharge of dredge or fill material, including diking, damming, filling, excavating, grading, plowing, flooding/ponding, draining, mining, drilling, placing of trash and yard debris or removing/adding topsoil, sand, or other materials (except as may be necessary on a case-by-case basis with prior express written approval by USACE and DEQ);

4. The use of gas/diesel powered watercraft or vehicles in any location or manner that would alter the preservation area. However, the collection of game and non-commercial use of roads and trails outside of streams in a manner that does not alter the Mitigation Area is permitted.

5. Permitting livestock to graze, inhabit or otherwise enter the Mitigation Area.

6. Cultivating, harvesting, cutting, logging, planting, and pruning of trees and plants, or using fertilizers and spraying with biocides (except as may be necessary on a case-by-case basis with prior express written approval by USACE and DEQ);

Easement

Owner hereby grants, conveys and provides to Developer, USACE, and DEQ, and their

respective agents, employees, contractors, successors and assigns (together, the "**Authorized Parties**"), a non-exclusive easement and right of way for vehicular access, ingress and egress over the Property into the Mitigation Area (collectively, the "**Access Roads**"), in order to perform studies and to perform construction, maintenance, monitoring and inspection of the Mitigation Area. Owner does also hereby grant, convey and provide to the Authorized Parties, and to each of them, a perpetual, non-exclusive easement over the Mitigation Area in order to perform studies and to perform construction, maintenance, monitoring and inspection of the Mitigation Area.

Other Restrictions.

Owner represents and warrants that no restriction of record on the use of the Mitigation Area, nor any presently existing future estate or interest in the Property, nor any lien, obligation, covenant, limitation, lease, mortgage, or encumbrance of any kind precludes the imposition or maintenance of this Declaration or the restrictions established herein.

Notice of Legal Action

The USACE and DEQ shall be provided with a 60-day advance written notice of any legal action concerning this Declaration or of any action to extinguish, void or modify this Declaration in whole or in part.

Amendment

The easements and covenants contained herein shall not hereafter be altered in any respect without the express written approval and consent of the Owner or its successor in interest and the USACE and DEQ. The Owner or its successor may apply to the USACE and DEQ for vacation or modification of this Declaration; however, after recording, these easements and restrictive covenants may only be amended or vacated by a recorded document signed by the USACE, DEQ, and the Owner or its successor in interest.

This Declaration is intended to survive foreclosure, bankruptcy, condemnation or judgments affecting the Property.

Compliance Inspections and Enforcement

The USACE, DEQ, and their authorized agents shall have the right to enter and go upon the Property to inspect the Property and take actions necessary to verify compliance with these restrictive covenants, however, USACE and DEQ shall make a good faith effort to provide reasonable advance notice prior to entering the property and shall limit all access to only that which is necessary to carry out the purposes of the Mitigation project. The restrictive covenants herein shall be enforceable by any proceeding at law or in equity or administrative proceeding by the USACE and DEQ. Failure by any agency (or owner) to enforce any covenant of restriction contained herein shall in no event be deemed a waiver of the right to do so thereafter.

Provision

Should an easement, right, interest or lease on or to the Property, not acknowledged herein, listed in Exhibit A, or identified on Exhibit B, and prior in time and recording to this Declaration, or unrecorded, be exercised in such a manner that it conflicts with or voids the prohibited uses of the Property set out in this Declaration, then Green Ridge Landfill, as the Permittee of USACE Permit No. _____ and of DEQ Permit No. _____, shall be responsible for providing alternative compensatory mitigation in such amounts and of such service and function as the Corps, or any enforcer of this Declaration shall determine in its sole discretion, in accordance with the Clean Water Act and/or Sections 62.1-44.15:20-23 of the Code of Virginia.

Eminent Domain

If any part of the Preservation Area is taken in whole or in part through eminent domain (taking), the Owner is obligated, and hereby agrees, to use the proceeds that represent the proportionate value of the compensation for the taking that represents the functions and values provided by the Mitigation Area, to procure and replace the functions and values of the Mitigation Area; such replacement to be determined by the Corps and DEQ. Any valuation of the Property or Mitigation Area should include consideration of the values and functions of the Mitigation Area, with particular regard to the cost of providing or obtaining replacement functions and values from mitigation banks or in-lieu fee sites in the same watershed.

Separability Provision

The provisions hereof shall be deemed individual and severable and the invalidity or partial invalidity or unenforceability of any one provision or any portion thereof shall not affect the validity or enforceability of any other provision thereof.

Notice to Government

Any permit application or request made to any government entity, which would affect the Mitigation Area on the Property, shall provide notice and copy of this Declaration to the government entity.

Property Transfers

Owner covenants to provide notice of this Declaration on any legal instrument used to convey any interest in the Property, provided that failure to include such notice shall not extinguish or otherwise impair the validity or enforceability of the restrictions and covenants established by this Declaration.

[*REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK; SIGNATURES APPEAR ON THE FOLLOWING PAGE*]

WITNESS the following signature the day and year first above written.

OWNER:

_____
SUNNY MARTIN AGEE

_____
EDWARD RAY MARTIN

COMMONWEALTH OF VIRGINIA,

CITY/COUNTY OF _____, to-wit:

The foregoing instrument was acknowledged before me this ___ day of _____, 201__, by _____, as _____ of _____, a _____, on behalf of the Owner.

My commission expires: _____

My registration number is: _____

_____
Notary Public

DRAFT

DECLARATION OF EASEMENTS AND RESTRICTIONS

OF

BLAKE AUBRE MARTIN AND DEIDRE D. MARTIN

CUMBERLAND COUNTY, VIRGINIA

THIS DECLARATION OF EASEMENTS AND RESTRICTIVE COVENANTS is made this _____day of _____, 2020, by BLAKE AUBRE MARTIN and DEIBRE D. MARTIN (the "**Owner**").

WHEREAS, the owner is the owner of the Property, rights and interests more fully described on Exhibit A attached hereto (the "Property"); it being a portion of the Properties conveyed to Owner, by Deed of Gift from Edward Ray Martin, dated October 13, 2009, and duly recorded in the Clerk's Office of the County of Cumberland as Instrument Number 20091240 on the 16.426 acres, and by Deed of Gift from Edward Ray Martin, dated June 18, 2018 and duly recorded in the Clerk's Office of the County of Cumberland as Instrument Number 201800452 on the 61.028 acres;

WHEREAS, by one or more agreements (together the "_____ **Agreement**") by and between the Owner and Green Ridge Recycling and Disposal Facility LLC, ("**Green Ridge Landfill**" – the **"Developer"**): (a) the Developer agreed to provide compensatory mitigation to Green Ridge Landfill utilizing a portion of the Property; and (b) the Owner agreed to: (i) permit Developer to develop stream mitigation on the Property; (ii) to grant Developer and others the necessary licenses and easements to construct and maintain stream mitigation on the Property; and (iii) to enter into restrictive covenants in order to protect the stream mitigation areas, all as more particularly set forth in the _____ Agreement.

WHEREAS, USACE regulations, at 33 C.F.R. § 332.7, require that the aquatic habitats, riparian areas, buffers, and uplands that comprise an overall compensatory mitigation project (the Mitigation Area) must be provided long-term protection through a real estate instrument, such as this Declaration;

WHEREAS, Owner desires to impose on said Property easements and restrictive covenants expressing Owner's intent to preserve 11.3 acres, more or less, of said Property as shown on Exhibit B and as described as the "Conservation Easement Area" (the "**Mitigation Area**") in perpetuity in its natural state as detailed below which easements and covenants shall run with and bind the Mitigation Area and are imposed by Owner freely and voluntarily, in order to provide compensation for aquatic impacts pursuant to U.S. Army Corps of Engineers ("**Corps**" or "**USACE**") Permit No. _____.

WHEREAS, Owner obtained authorization through Virginia Department of Environmental Quality ("**DEQ**") Permit Number _____, issued on _____, by the DEQ in accordance with State Water Control Law Sections 62.1-44.5 and 62.1-44.15:20 for impacts to State Waters.

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    i. Alteration necessary to ensure the success of the Mitigation Area including monitoring, reconstruction or maintenance of the constructed Mitigation Area, as approved by the USACE and DEQ;

    ii. Alteration to construct structures such as walkways, boardwalks, foot trails, wildlife observation or management structures, benches, observation decks, picnic tables, fence posts, and ecological, biological, hydrological or chemical monitoring, observation or management equipment including, without limitation, monitoring wells, or interpretive stations, or other structures as approved by the USACE and DEQ, provided that:

        1. any such structures permit, and do not impede, the natural movement of water, and

        2. structures and/or facilities do not alter the physical, biological, or chemical nature of the protected resource and/or its protected buffer

3. such facilities are constructed and maintained in accordance with all applicable federal and state laws;

iii. Addition of signs constructed in public rights of way by or on behalf of the Virginia Department of Transportation or other governmental agencies;

iv. Removal of vegetation (where not precluded by federal or state law) when approved by the USACE and DEQ and conducted for:

1. Removal of noxious or invasive plants; or

2. Public safety purposes

v. Planting of native species of plants by hand for aesthetic landscaping or screening purposes; and

vi. Alteration as reasonably necessary to comply with state or federal law or appropriate court order.

2. Construction, maintenance or placement of any structures or fills (other than those which currently exist) including but not limited to buildings, mobile homes, fences, signs or other permanent structures that include but are not limited to stream crossings, camp sites, hunting blinds and/or target shooting structures without prior express written approval of the USACE and DEQ. However, boardwalks, wildlife management structures, observation decks, one informative sign, and unpaved foot trails may be placed within the Mitigation Area provided that any such structure does not alter streams, permits the natural movement of water and preserves the natural contour of the ground and subject to prior express written approval by the USACE and DEQ;

3. Ditching, land clearing or discharge of dredge or fill material, including diking, damming, filling, excavating, grading, plowing, flooding/ponding, draining, mining, drilling, placing of trash and yard debris or removing/adding topsoil, sand, or other materials (except as may be necessary on a case-by-case basis with prior express written approval by USACE and DEQ);

4. The use of gas/diesel powered watercraft or vehicles in any location or manner that would alter the preservation area. However, the collection of game and non-commercial use of roads and trails outside of streams in a manner that does not alter the Mitigation Area is permitted.

5. Permitting livestock to graze, inhabit or otherwise enter the Mitigation Area.

6. Cultivating, harvesting, cutting, logging, planting, and pruning of trees and plants, or using fertilizers and spraying with biocides (except as may be necessary on a case-by-case basis with prior express written approval by USACE and DEQ);

Easement

Owner hereby grants, conveys and provides to Developer, USACE, and DEQ, and their

respective agents, employees, contractors, successors and assigns (together, the "**Authorized Parties**"), a non-exclusive easement and right of way for vehicular access, ingress and egress over the Property into the Mitigation Area (collectively, the "**Access Roads**"), in order to perform studies and to perform construction, maintenance, monitoring and inspection of the Mitigation Area. Owner does also hereby grant, convey and provide to the Authorized Parties, and to each of them, a perpetual, non-exclusive easement over the Mitigation Area in order to perform studies and to perform construction, maintenance, monitoring and inspection of the Mitigation Area.

Other Restrictions.

Owner represents and warrants that no restriction of record on the use of the Mitigation Area, nor any presently existing future estate or interest in the Property, nor any lien, obligation, covenant, limitation, lease, mortgage, or encumbrance of any kind precludes the imposition or maintenance of this Declaration or the restrictions established herein.

Notice of Legal Action

The USACE and DEQ shall be provided with a 60-day advance written notice of any legal action concerning this Declaration or of any action to extinguish, void or modify this Declaration in whole or in part.

Amendment

The easements and covenants contained herein shall not hereafter be altered in any respect without the express written approval and consent of the Owner or its successor in interest and the USACE and DEQ. The Owner or its successor may apply to the USACE and DEQ for vacation or modification of this Declaration; however, after recording, these easements and restrictive covenants may only be amended or vacated by a recorded document signed by the USACE, DEQ, and the Owner or its successor in interest.

This Declaration is intended to survive foreclosure, bankruptcy, condemnation or judgments affecting the Property.

Compliance Inspections and Enforcement

The USACE, DEQ, and their authorized agents shall have the right to enter and go upon the Property to inspect the Property and take actions necessary to verify compliance with these restrictive covenants, however, USACE and DEQ shall make a good faith effort to provide reasonable advance notice prior to entering the property and shall limit all access to only that which is necessary to carry out the purposes of the Mitigation project. The restrictive covenants herein shall be enforceable by any proceeding at law or in equity or administrative proceeding by the USACE and DEQ. Failure by any agency (or owner) to enforce any covenant of restriction contained herein shall in no event be deemed a waiver of the right to do so thereafter.

Provision

Should an easement, right, interest or lease on or to the Property, not acknowledged herein, listed in Exhibit A, or identified on Exhibit B, and prior in time and recording to this Declaration, or unrecorded, be exercised in such a manner that it conflicts with or voids the prohibited uses of the Property set out in this Declaration, then Green Ridge Landfill, as the Permittee of USACE Permit No. _____ and of DEQ Permit No. _____, shall be responsible for providing alternative compensatory mitigation in such amounts and of such service and function as the Corps, or any enforcer of this Declaration shall determine in its sole discretion, in accordance with the Clean Water Act and/or Sections 62.1-44.15:20-23 of the Code of Virginia.

Eminent Domain

If any part of the Preservation Area is taken in whole or in part through eminent domain (taking), the Owner is obligated, and hereby agrees, to use the proceeds that represent the proportionate value of the compensation for the taking that represents the functions and values provided by the Mitigation Area, to procure and replace the functions and values of the Mitigation Area; such replacement to be determined by the Corps and DEQ. Any valuation of the Property or Mitigation Area should include consideration of the values and functions of the Mitigation Area, with particular regard to the cost of providing or obtaining replacement functions and values from mitigation banks or in-lieu fee sites in the same watershed.

Separability Provision

The provisions hereof shall be deemed individual and severable and the invalidity or partial invalidity or unenforceability of any one provision or any portion thereof shall not affect the validity or enforceability of any other provision thereof.

Notice to Government

Any permit application or request made to any government entity, which would affect the Mitigation Area on the Property, shall provide notice and copy of this Declaration to the government entity.

Property Transfers

Owner covenants to provide notice of this Declaration on any legal instrument used to convey any interest in the Property, provided that failure to include such notice shall not extinguish or otherwise impair the validity or enforceability of the restrictions and covenants established by this Declaration.

[*REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK; SIGNATURES APPEAR ON THE FOLLOWING PAGE*]

WITNESS the following signature the day and year first above written.

OWNER:

_____
BLAKE AUBRE MARTIN

_____
DEIDRE D. MARTIN

COMMONWEALTH OF VIRGINIA,

CITY/COUNTY OF _____, to-wit:

The foregoing instrument was acknowledged before me this ___ day of _____, 201__, by _____, as _____ of _____, a _____, on behalf of the Owner.

My commission expires: _____

My registration number is: _____

_____
Notary Public

DRAFT

DECLARATION OF EASEMENTS AND RESTRICTIONS

OF

GREEN RIDGE RECYCLING AND DISPOSAL FACILITY, LLC

CUMBERLAND COUNTY, VIRGINIA

THIS DECLARATION OF EASEMENTS AND RESTRICTIVE COVENANTS is made this _____day of _____, 2020, by GREEN RIDGE RECYCLING AND DISPOSAL FACILITY LLC (the "**Owner**").

WHEREAS, the owner is the owner of the Property, rights and interests more fully described on Exhibit A attached hereto (the "Property"); it being a portion of the Property conveyed to Owner, by deed from _____, dated _____, and duly recorded in the Clerk's Office of the County of Cumberland in Deed Book ____, at page _____ on the 78 acres;

WHEREAS, by one or more agreements (together the "**_____Agreement**") by and between the Owner and Green Ridge Recycling and Disposal Facility LLC, ("**Green Ridge Landfill**" – the **"Developer"**): (a) the Developer agreed to provide compensatory mitigation to Green Ridge Landfill utilizing a portion of the Property; and (b) the Owner agreed to: (i) permit Developer to develop stream mitigation on the Property; (ii) to grant Developer and others the necessary licenses and easements to construct and maintain stream mitigation on the Property; and (iii) to enter into restrictive covenants in order to protect the stream mitigation areas, all as more particularly set forth in the _____Agreement.

WHEREAS, USACE regulations, at 33 C.F.R. § 332.7, require that the aquatic habitats, riparian areas, buffers, and uplands that comprise an overall compensatory mitigation project (the Mitigation Area) must be provided long-term protection through a real estate instrument, such as this Declaration;

WHEREAS, Owner desires to impose on said Property easements and restrictive covenants expressing Owner's intent to preserve 30.2 acres, more or less, of said Property as shown on Exhibit B and as described as the "Conservation Easement Area" (the "**Mitigation Area**") in perpetuity in its natural state as detailed below which easements and covenants shall run with and bind the Mitigation Area and are imposed by Owner freely and voluntarily, in order to provide compensation for aquatic impacts pursuant to U.S. Army Corps of Engineers ("**Corps**" or "**USACE**") Permit No. _____.

WHEREAS, Owner obtained authorization through Virginia Department of Environmental Quality ("**DEQ**") Permit Number _____, issued on _____, by the DEQ in accordance with State Water Control Law Sections 62.1-44.5 and 62.1-44.15:20 for impacts to State Waters.

WHEREAS, on account of the fact that the Property will serve as compensation for such above-

referenced impacts, the USACE and DEQ are third-party beneficiaries under this Declaration of Easements and Restrictions ("Declaration").

NOW THEREFORE THIS DECLARATION WITNESSETH: Owner does hereby declare, covenant and agree, for itself and its successors and assigns, that the Mitigation Area as shown on Exhibit B, shall be hereafter held, leased, transferred, and sold subject to the following conditions and restrictions which shall run with the land and be binding on all parties and persons claiming under them.

Covenants and Restrictions: Preservation Area

Owner shall ensure that this Declaration is recorded in the land records of Cumberland County, and shall ensure that this Declaration is indexed against the land records for the Property. Owner shall ensure that these Covenants and Restrictions run with the Property in perpetuity and be binding on Owner and its successors, assigns, lessees, and any other occupiers or users of the Property.

Owner declares, for itself and its successors and assigns, that the Mitigation Area shall hereafter be held exclusively for conservation purposes, unless otherwise provided herein.

That portion of the Property described as the Mitigation Area and shown on Exhibit B attached hereto shall be preserved in perpetuity in its natural state, by **prohibiting** the following activities:

1. Destruction or alteration of the Mitigation Area shown on Exhibit B other than those alterations expressly authorized in writing by the Norfolk District, USACE, or DEQ, *provided that* the following activities are **allowed**:

   i. Alteration necessary to ensure the success of the Mitigation Area including monitoring, reconstruction or maintenance of the constructed Mitigation Area, as approved by the USACE and DEQ;

   ii. Alteration to construct structures such as walkways, boardwalks, foot trails, wildlife observation or management structures, benches, observation decks, picnic tables, fence posts, and ecological, biological, hydrological or chemical monitoring, observation or management equipment including, without limitation, monitoring wells, or interpretive stations, or other structures as approved by the USACE and DEQ, provided that:

      1. any such structures permit, and do not impede, the natural movement of water, and

      2. structures and/or facilities do not alter the physical, biological, or chemical nature of the protected resource and/or its protected buffer

3. such facilities are constructed and maintained in accordance with all applicable federal and state laws;

iii. Addition of signs constructed in public rights of way by or on behalf of the Virginia Department of Transportation or other governmental agencies;

iv. Removal of vegetation (where not precluded by federal or state law) when approved by the USACE and DEQ and conducted for:

1. Removal of noxious or invasive plants; or

2. Public safety purposes

v. Planting of native species of plants by hand for aesthetic landscaping or screening purposes; and

vi. Alteration as reasonably necessary to comply with state or federal law or appropriate court order.

2. Construction, maintenance or placement of any structures or fills (other than those which currently exist) including but not limited to buildings, mobile homes, fences, signs or other permanent structures that include but are not limited to stream crossings, camp sites, hunting blinds and/or target shooting structures without prior express written approval of the USACE and DEQ. However, boardwalks, wildlife management structures, observation decks, one informative sign, and unpaved foot trails may be placed within the Mitigation Area provided that any such structure does not alter streams, permits the natural movement of water and preserves the natural contour of the ground and subject to prior express written approval by the USACE and DEQ;

3. Ditching, land clearing or discharge of dredge or fill material, including diking, damming, filling, excavating, grading, plowing, flooding/ponding, draining, mining, drilling, placing of trash and yard debris or removing/adding topsoil, sand, or other materials (except as may be necessary on a case-by-case basis with prior express written approval by USACE and DEQ);

4. The use of gas/diesel powered watercraft or vehicles in any location or manner that would alter the preservation area. However, the collection of game and non-commercial use of roads and trails outside of streams in a manner that does not alter the Mitigation Area is permitted.

5. Permitting livestock to graze, inhabit or otherwise enter the Mitigation Area.

6. Cultivating, harvesting, cutting, logging, planting, and pruning of trees and plants, or using fertilizers and spraying with biocides (except as may be necessary on a case-by-case basis with prior express written approval by USACE and DEQ);

Easement

Owner hereby grants, conveys and provides to Developer, USACE, and DEQ, and their

respective agents, employees, contractors, successors and assigns (together, the "**Authorized Parties**"), a non-exclusive easement and right of way for vehicular access, ingress and egress over the Property into the Mitigation Area (collectively, the "**Access Roads**"), in order to perform studies and to perform construction, maintenance, monitoring and inspection of the Mitigation Area. Owner does also hereby grant, convey and provide to the Authorized Parties, and to each of them, a perpetual, non-exclusive easement over the Mitigation Area in order to perform studies and to perform construction, maintenance, monitoring and inspection of the Mitigation Area.

Other Restrictions.

Owner represents and warrants that no restriction of record on the use of the Mitigation Area, nor any presently existing future estate or interest in the Property, nor any lien, obligation, covenant, limitation, lease, mortgage, or encumbrance of any kind precludes the imposition or maintenance of this Declaration or the restrictions established herein.

Notice of Legal Action

The USACE and DEQ shall be provided with a 60-day advance written notice of any legal action concerning this Declaration or of any action to extinguish, void or modify this Declaration in whole or in part.

Amendment

The easements and covenants contained herein shall not hereafter be altered in any respect without the express written approval and consent of the Owner or its successor in interest and the USACE and DEQ. The Owner or its successor may apply to the USACE and DEQ for vacation or modification of this Declaration; however, after recording, these easements and restrictive covenants may only be amended or vacated by a recorded document signed by the USACE, DEQ, and the Owner or its successor in interest.

This Declaration is intended to survive foreclosure, bankruptcy, condemnation or judgments affecting the Property.

Compliance Inspections and Enforcement

The USACE, DEQ, and their authorized agents shall have the right to enter and go upon the Property to inspect the Property and take actions necessary to verify compliance with these restrictive covenants, however, USACE and DEQ shall make a good faith effort to provide reasonable advance notice prior to entering the property and shall limit all access to only that which is necessary to carry out the purposes of the Mitigation project. The restrictive covenants herein shall be enforceable by any proceeding at law or in equity or administrative proceeding by the USACE and DEQ. Failure by any agency (or owner) to enforce any covenant of restriction contained herein shall in no event be deemed a waiver of the right to do so thereafter.

Provision

Should an easement, right, interest or lease on or to the Property, not acknowledged herein, listed in Exhibit A, or identified on Exhibit B, and prior in time and recording to this Declaration, or unrecorded, be exercised in such a manner that it conflicts with or voids the prohibited uses of the Property set out in this Declaration, then Green Ridge Landfill, as the Permittee of USACE Permit No. _____ and of DEQ Permit No. _____, shall be responsible for providing alternative compensatory mitigation in such amounts and of such service and function as the Corps, or any enforcer of this Declaration shall determine in its sole discretion, in accordance with the Clean Water Act and/or Sections 62.1-44.15:20-23 of the Code of Virginia.

Eminent Domain

If any part of the Preservation Area is taken in whole or in part through eminent domain (taking), the Owner is obligated, and hereby agrees, to use the proceeds that represent the proportionate value of the compensation for the taking that represents the functions and values provided by the Mitigation Area, to procure and replace the functions and values of the Mitigation Area; such replacement to be determined by the Corps and DEQ. Any valuation of the Property or Mitigation Area should include consideration of the values and functions of the Mitigation Area, with particular regard to the cost of providing or obtaining replacement functions and values from mitigation banks or in-lieu fee sites in the same watershed.

Separability Provision

The provisions hereof shall be deemed individual and severable and the invalidity or partial invalidity or unenforceability of any one provision or any portion thereof shall not affect the validity or enforceability of any other provision thereof.

Notice to Government

Any permit application or request made to any government entity, which would affect the Mitigation Area on the Property, shall provide notice and copy of this Declaration to the government entity.

Property Transfers

Owner covenants to provide notice of this Declaration on any legal instrument used to convey any interest in the Property, provided that failure to include such notice shall not extinguish or otherwise impair the validity or enforceability of the restrictions and covenants established by this Declaration.

[*REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK; SIGNATURES APPEAR ON THE FOLLOWING PAGE*]

WITNESS the following signature the day and year first above written.

OWNER:

_____
GREEN RIDGE RECYCLING AND DISPOSAL FACILITY, LLC

COMMONWEALTH OF VIRGINIA,

CITY/COUNTY OF _____, to-wit:

The foregoing instrument was acknowledged before me this ___ day of _____, 201__, by _____, as _____ of _____, a _____, on behalf of the Owner.

My commission expires: _____

My registration number is: _____

_____
Notary Public

DRAFT

DECLARATION OF EASEMENTS AND RESTRICTIONS

OF

GREEN RIDGE RECYCLING AND DISPOSAL FACILITY, LLC

CUMBERLAND COUNTY, VIRGINIA

THIS DECLARATION OF EASEMENTS AND RESTRICTIVE COVENANTS is made this _____day of _____, 2020, by GREEN RIDGE RECYCLING AND DISPOSAL FACILITY LLC (the "**Owner**").

WHEREAS, the owner is the owner of the Property, rights and interests more fully described on Exhibit A attached hereto (the "Property"); it being a portion of the Property conveyed to Owner, by deed from _____, dated _____, and duly recorded in the Clerk's Office of the County of Cumberland in Deed Book ____, at page _____ on the 163.746 acres;

WHEREAS, by one or more agreements (together the "**_____Agreement**") by and between the Owner and Green Ridge Recycling and Disposal Facility LLC, ("**Green Ridge Landfill**" – the **"Developer"**): (a) the Developer agreed to provide compensatory mitigation to Green Ridge Landfill utilizing a portion of the Property; and (b) the Owner agreed to: (i) permit Developer to develop stream mitigation on the Property; (ii) to grant Developer and others the necessary licenses and easements to construct and maintain stream mitigation on the Property; and (iii) to enter into restrictive covenants in order to protect the stream mitigation areas, all as more particularly set forth in the _____Agreement.

WHEREAS, USACE regulations, at 33 C.F.R. § 332.7, require that the aquatic habitats, riparian areas, buffers, and uplands that comprise an overall compensatory mitigation project (the Mitigation Area) must be provided long-term protection through a real estate instrument, such as this Declaration;

WHEREAS, Owner desires to impose on said Property easements and restrictive covenants expressing Owner's intent to preserve 41.8 acres, more or less, of said Property as shown on Exhibit B and as described as the "Conservation Easement Area" (the "**Mitigation Area**") in perpetuity in its natural state as detailed below which easements and covenants shall run with and bind the Mitigation Area and are imposed by Owner freely and voluntarily, in order to provide compensation for aquatic impacts pursuant to U.S. Army Corps of Engineers ("**Corps**" or "**USACE**") Permit No. _____.

WHEREAS, Owner obtained authorization through Virginia Department of Environmental Quality ("**DEQ**") Permit Number _____ issued on _____, by the DEQ in accordance with State Water Control Law Sections 62.1-44.5 and 62.1-44.15:20 for impacts to State Waters.

WHEREAS, on account of the fact that the Property will serve as compensation for such above-

referenced impacts, the USACE and DEQ are third-party beneficiaries under this Declaration of Easements and Restrictions ("Declaration").

NOW THEREFORE THIS DECLARATION WITNESSETH: Owner does hereby declare, covenant and agree, for itself and its successors and assigns, that the Mitigation Area as shown on Exhibit B, shall be hereafter held, leased, transferred, and sold subject to the following conditions and restrictions which shall run with the land and be binding on all parties and persons claiming under them.

Covenants and Restrictions: Preservation Area

Owner shall ensure that this Declaration is recorded in the land records of Cumberland County, and shall ensure that this Declaration is indexed against the land records for the Property. Owner shall ensure that these Covenants and Restrictions run with the Property in perpetuity and be binding on Owner and its successors, assigns, lessees, and any other occupiers or users of the Property.

Owner declares, for itself and its successors and assigns, that the Mitigation Area shall hereafter be held exclusively for conservation purposes, unless otherwise provided herein.

That portion of the Property described as the Mitigation Area and shown on Exhibit B attached hereto shall be preserved in perpetuity in its natural state, by **prohibiting** the following activities:

1. Destruction or alteration of the Mitigation Area shown on Exhibit B other than those alterations expressly authorized in writing by the Norfolk District, USACE, or DEQ, *provided that* the following activities are **allowed**:

   i. Alteration necessary to ensure the success of the Mitigation Area including monitoring, reconstruction or maintenance of the constructed Mitigation Area, as approved by the USACE and DEQ;

   ii. Alteration to construct structures such as walkways, boardwalks, foot trails, wildlife observation or management structures, benches, observation decks, picnic tables, fence posts, and ecological, biological, hydrological or chemical monitoring, observation or management equipment including, without limitation, monitoring wells, or interpretive stations, or other structures as approved by the USACE and DEQ, provided that:

      1. any such structures permit, and do not impede, the natural movement of water, and

      2. structures and/or facilities do not alter the physical, biological, or chemical nature of the protected resource and/or its protected buffer

3. such facilities are constructed and maintained in accordance with all applicable federal and state laws;

iii. Addition of signs constructed in public rights of way by or on behalf of the Virginia Department of Transportation or other governmental agencies;

iv. Removal of vegetation (where not precluded by federal or state law) when approved by the USACE and DEQ and conducted for:

1. Removal of noxious or invasive plants; or

2. Public safety purposes

v. Planting of native species of plants by hand for aesthetic landscaping or screening purposes; and

vi. Alteration as reasonably necessary to comply with state or federal law or appropriate court order.

2. Construction, maintenance or placement of any structures or fills (other than those which currently exist) including but not limited to buildings, mobile homes, fences, signs or other permanent structures that include but are not limited to stream crossings, camp sites, hunting blinds and/or target shooting structures without prior express written approval of the USACE and DEQ. However, boardwalks, wildlife management structures, observation decks, one informative sign, and unpaved foot trails may be placed within the Mitigation Area provided that any such structure does not alter streams, permits the natural movement of water and preserves the natural contour of the ground and subject to prior express written approval by the USACE and DEQ;

3. Ditching, land clearing or discharge of dredge or fill material, including diking, damming, filling, excavating, grading, plowing, flooding/ponding, draining, mining, drilling, placing of trash and yard debris or removing/adding topsoil, sand, or other materials (except as may be necessary on a case-by-case basis with prior express written approval by USACE and DEQ);

4. The use of gas/diesel powered watercraft or vehicles in any location or manner that would alter the preservation area. However, the collection of game and non-commercial use of roads and trails outside of streams in a manner that does not alter the Mitigation Area is permitted.

5. Permitting livestock to graze, inhabit or otherwise enter the Mitigation Area.

6. Cultivating, harvesting, cutting, logging, planting, and pruning of trees and plants, or using fertilizers and spraying with biocides (except as may be necessary on a case-by-case basis with prior express written approval by USACE and DEQ);

Easement

Owner hereby grants, conveys and provides to Developer, USACE, and DEQ, and their

respective agents, employees, contractors, successors and assigns (together, the "**Authorized Parties**"), a non-exclusive easement and right of way for vehicular access, ingress and egress over the Property into the Mitigation Area (collectively, the "**Access Roads**"), in order to perform studies and to perform construction, maintenance, monitoring and inspection of the Mitigation Area. Owner does also hereby grant, convey and provide to the Authorized Parties, and to each of them, a perpetual, non-exclusive easement over the Mitigation Area in order to perform studies and to perform construction, maintenance, monitoring and inspection of the Mitigation Area.

Other Restrictions.

Owner represents and warrants that no restriction of record on the use of the Mitigation Area, nor any presently existing future estate or interest in the Property, nor any lien, obligation, covenant, limitation, lease, mortgage, or encumbrance of any kind precludes the imposition or maintenance of this Declaration or the restrictions established herein.

Notice of Legal Action

The USACE and DEQ shall be provided with a 60-day advance written notice of any legal action concerning this Declaration or of any action to extinguish, void or modify this Declaration in whole or in part.

Amendment

The easements and covenants contained herein shall not hereafter be altered in any respect without the express written approval and consent of the Owner or its successor in interest and the USACE and DEQ. The Owner or its successor may apply to the USACE and DEQ for vacation or modification of this Declaration; however, after recording, these easements and restrictive covenants may only be amended or vacated by a recorded document signed by the USACE, DEQ, and the Owner or its successor in interest.

This Declaration is intended to survive foreclosure, bankruptcy, condemnation or judgments affecting the Property.

Compliance Inspections and Enforcement

The USACE, DEQ, and their authorized agents shall have the right to enter and go upon the Property to inspect the Property and take actions necessary to verify compliance with these restrictive covenants, however, USACE and DEQ shall make a good faith effort to provide reasonable advance notice prior to entering the property and shall limit all access to only that which is necessary to carry out the purposes of the Mitigation project. The restrictive covenants herein shall be enforceable by any proceeding at law or in equity or administrative proceeding by the USACE and DEQ. Failure by any agency (or owner) to enforce any covenant of restriction contained herein shall in no event be deemed a waiver of the right to do so thereafter.

Provision

Should an easement, right, interest or lease on or to the Property, not acknowledged herein, listed in Exhibit A, or identified on Exhibit B, and prior in time and recording to this Declaration, or unrecorded, be exercised in such a manner that it conflicts with or voids the prohibited uses of the Property set out in this Declaration, then Green Ridge Landfill, as the Permittee of USACE Permit No. _____ and of DEQ Permit No. _____, shall be responsible for providing alternative compensatory mitigation in such amounts and of such service and function as the Corps, or any enforcer of this Declaration shall determine in its sole discretion, in accordance with the Clean Water Act and/or Sections 62.1-44.15:20-23 of the Code of Virginia.

Eminent Domain

If any part of the Preservation Area is taken in whole or in part through eminent domain (taking), the Owner is obligated, and hereby agrees, to use the proceeds that represent the proportionate value of the compensation for the taking that represents the functions and values provided by the Mitigation Area, to procure and replace the functions and values of the Mitigation Area; such replacement to be determined by the Corps and DEQ. Any valuation of the Property or Mitigation Area should include consideration of the values and functions of the Mitigation Area, with particular regard to the cost of providing or obtaining replacement functions and values from mitigation banks or in-lieu fee sites in the same watershed.

Separability Provision

The provisions hereof shall be deemed individual and severable and the invalidity or partial invalidity or unenforceability of any one provision or any portion thereof shall not affect the validity or enforceability of any other provision thereof.

Notice to Government

Any permit application or request made to any government entity, which would affect the Mitigation Area on the Property, shall provide notice and copy of this Declaration to the government entity.

Property Transfers

Owner covenants to provide notice of this Declaration on any legal instrument used to convey any interest in the Property, provided that failure to include such notice shall not extinguish or otherwise impair the validity or enforceability of the restrictions and covenants established by this Declaration.

[*REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK; SIGNATURES APPEAR ON THE FOLLOWING PAGE*]

WITNESS the following signature the day and year first above written.

OWNER:

_____
GREEN RIDGE RECYCLING AND DISPOSAL FACILITY, LLC

COMMONWEALTH OF VIRGINIA,

CITY/COUNTY OF _____, to-wit:

The foregoing instrument was acknowledged before me this ___ day of _____, 201__, by _____, as _____ of _____, a _____, on behalf of the Owner.

My commission expires: _____

My registration number is: _____

_____
Notary Public

DRAFT

DECLARATION OF EASEMENTS AND RESTRICTIONS

OF

GREEN RIDGE RECYCLING AND DISPOSAL FACILITY, LLC

CUMBERLAND COUNTY, VIRGINIA

THIS DECLARATION OF EASEMENTS AND RESTRICTIVE COVENANTS is made this _____day of _____, 2020, by GREEN RIDGE RECYCLING AND DISPOSAL FACILITY LLC (the "**Owner**").

WHEREAS, the owner is the owner of the Property, rights and interests more fully described on Exhibit A attached hereto (the "Property"); it being a portion of the Property conveyed to Owner, by deed from _____, dated _____, and duly recorded in the Clerk's Office of the County of Cumberland in Deed Book ____, at page _____ on the 58.18 acres;

WHEREAS, by one or more agreements (together the "**_____Agreement**") by and between the Owner and Green Ridge Recycling and Disposal Facility LLC, ("**Green Ridge Landfill**" – the **"Developer"**): (a) the Developer agreed to provide compensatory mitigation to Green Ridge Landfill utilizing a portion of the Property; and (b) the Owner agreed to: (i) permit Developer to develop stream mitigation on the Property; (ii) to grant Developer and others the necessary licenses and easements to construct and maintain stream mitigation on the Property; and (iii) to enter into restrictive covenants in order to protect the stream mitigation areas, all as more particularly set forth in the _____Agreement.

WHEREAS, USACE regulations, at 33 C.F.R. § 332.7, require that the aquatic habitats, riparian areas, buffers, and uplands that comprise an overall compensatory mitigation project (the Mitigation Area) must be provided long-term protection through a real estate instrument, such as this Declaration;

WHEREAS, Owner desires to impose on said Property easements and restrictive covenants expressing Owner's intent to preserve 12.02 acres, more or less, of said Property as shown on Exhibit B and as described as the "Conservation Easement Area" (the "**Mitigation Area**") in perpetuity in its natural state as detailed below which easements and covenants shall run with and bind the Mitigation Area and are imposed by Owner freely and voluntarily, in order to provide compensation for aquatic impacts pursuant to U.S. Army Corps of Engineers ("**Corps**" or "**USACE**") Permit No. _____.

WHEREAS, Owner obtained authorization through Virginia Department of Environmental Quality ("**DEQ**") Permit Number _____, issued on _____, by the DEQ in accordance with State Water Control Law Sections 62.1-44.5 and 62.1-44.15:20 for impacts to State Waters.

WHEREAS, on account of the fact that the Property will serve as compensation for such above-

referenced impacts, the USACE and DEQ are third-party beneficiaries under this Declaration of Easements and Restrictions ("Declaration").

NOW THEREFORE THIS DECLARATION WITNESSETH: Owner does hereby declare, covenant and agree, for itself and its successors and assigns, that the Mitigation Area as shown on Exhibit B, shall be hereafter held, leased, transferred, and sold subject to the following conditions and restrictions which shall run with the land and be binding on all parties and persons claiming under them.

Covenants and Restrictions: Preservation Area

Owner shall ensure that this Declaration is recorded in the land records of Cumberland County, and shall ensure that this Declaration is indexed against the land records for the Property. Owner shall ensure that these Covenants and Restrictions run with the Property in perpetuity and be binding on Owner and its successors, assigns, lessees, and any other occupiers or users of the Property.

Owner declares, for itself and its successors and assigns, that the Mitigation Area shall hereafter be held exclusively for conservation purposes, unless otherwise provided herein.

That portion of the Property described as the Mitigation Area and shown on Exhibit B attached hereto shall be preserved in perpetuity in its natural state, by **prohibiting** the following activities:

1. Destruction or alteration of the Mitigation Area shown on Exhibit B other than those alterations expressly authorized in writing by the Norfolk District, USACE, or DEQ, *provided that* the following activities are **allowed**:

   i. Alteration necessary to ensure the success of the Mitigation Area including monitoring, reconstruction or maintenance of the constructed Mitigation Area, as approved by the USACE and DEQ;

   ii. Alteration to construct structures such as walkways, boardwalks, foot trails, wildlife observation or management structures, benches, observation decks, picnic tables, fence posts, and ecological, biological, hydrological or chemical monitoring, observation or management equipment including, without limitation, monitoring wells, or interpretive stations, or other structures as approved by the USACE and DEQ, provided that:

      1. any such structures permit, and do not impede, the natural movement of water, and

      2. structures and/or facilities do not alter the physical, biological, or chemical nature of the protected resource and/or its protected buffer

3. such facilities are constructed and maintained in accordance with all applicable federal and state laws;

iii. Addition of signs constructed in public rights of way by or on behalf of the Virginia Department of Transportation or other governmental agencies;

iv. Removal of vegetation (where not precluded by federal or state law) when approved by the USACE and DEQ and conducted for:

1. Removal of noxious or invasive plants; or

2. Public safety purposes

v. Planting of native species of plants by hand for aesthetic landscaping or screening purposes; and

vi. Alteration as reasonably necessary to comply with state or federal law or appropriate court order.

2. Construction, maintenance or placement of any structures or fills (other than those which currently exist) including but not limited to buildings, mobile homes, fences, signs or other permanent structures that include but are not limited to stream crossings, camp sites, hunting blinds and/or target shooting structures without prior express written approval of the USACE and DEQ. However, boardwalks, wildlife management structures, observation decks, one informative sign, and unpaved foot trails may be placed within the Mitigation Area provided that any such structure does not alter streams, permits the natural movement of water and preserves the natural contour of the ground and subject to prior express written approval by the USACE and DEQ;

3. Ditching, land clearing or discharge of dredge or fill material, including diking, damming, filling, excavating, grading, plowing, flooding/ponding, draining, mining, drilling, placing of trash and yard debris or removing/adding topsoil, sand, or other materials (except as may be necessary on a case-by-case basis with prior express written approval by USACE and DEQ);

4. The use of gas/diesel powered watercraft or vehicles in any location or manner that would alter the preservation area. However, the collection of game and non-commercial use of roads and trails outside of streams in a manner that does not alter the Mitigation Area is permitted.

5. Permitting livestock to graze, inhabit or otherwise enter the Mitigation Area.

6. Cultivating, harvesting, cutting, logging, planting, and pruning of trees and plants, or using fertilizers and spraying with biocides (except as may be necessary on a case-by-case basis with prior express written approval by USACE and DEQ);

Easement

Owner hereby grants, conveys and provides to Developer, USACE, and DEQ, and their

respective agents, employees, contractors, successors and assigns (together, the "**Authorized Parties**"), a non-exclusive easement and right of way for vehicular access, ingress and egress over the Property into the Mitigation Area (collectively, the "**Access Roads**"), in order to perform studies and to perform construction, maintenance, monitoring and inspection of the Mitigation Area. Owner does also hereby grant, convey and provide to the Authorized Parties, and to each of them, a perpetual, non-exclusive easement over the Mitigation Area in order to perform studies and to perform construction, maintenance, monitoring and inspection of the Mitigation Area.

Other Restrictions.

Owner represents and warrants that no restriction of record on the use of the Mitigation Area, nor any presently existing future estate or interest in the Property, nor any lien, obligation, covenant, limitation, lease, mortgage, or encumbrance of any kind precludes the imposition or maintenance of this Declaration or the restrictions established herein.

Notice of Legal Action

The USACE and DEQ shall be provided with a 60-day advance written notice of any legal action concerning this Declaration or of any action to extinguish, void or modify this Declaration in whole or in part.

Amendment

The easements and covenants contained herein shall not hereafter be altered in any respect without the express written approval and consent of the Owner or its successor in interest and the USACE and DEQ. The Owner or its successor may apply to the USACE and DEQ for vacation or modification of this Declaration; however, after recording, these easements and restrictive covenants may only be amended or vacated by a recorded document signed by the USACE, DEQ, and the Owner or its successor in interest.

This Declaration is intended to survive foreclosure, bankruptcy, condemnation or judgments affecting the Property.

Compliance Inspections and Enforcement

The USACE, DEQ, and their authorized agents shall have the right to enter and go upon the Property to inspect the Property and take actions necessary to verify compliance with these restrictive covenants, however, USACE and DEQ shall make a good faith effort to provide reasonable advance notice prior to entering the property and shall limit all access to only that which is necessary to carry out the purposes of the Mitigation project. The restrictive covenants herein shall be enforceable by any proceeding at law or in equity or administrative proceeding by the USACE and DEQ. Failure by any agency (or owner) to enforce any covenant of restriction contained herein shall in no event be deemed a waiver of the right to do so thereafter.

Provision

Should an easement, right, interest or lease on or to the Property, not acknowledged herein, listed in Exhibit A, or identified on Exhibit B, and prior in time and recording to this Declaration, or unrecorded, be exercised in such a manner that it conflicts with or voids the prohibited uses of the Property set out in this Declaration, then Green Ridge Landfill, as the Permittee of USACE Permit No. _____ and of DEQ Permit No. _____, shall be responsible for providing alternative compensatory mitigation in such amounts and of such service and function as the Corps, or any enforcer of this Declaration shall determine in its sole discretion, in accordance with the Clean Water Act and/or Sections 62.1-44.15:20-23 of the Code of Virginia.

Eminent Domain

If any part of the Preservation Area is taken in whole or in part through eminent domain (taking), the Owner is obligated, and hereby agrees, to use the proceeds that represent the proportionate value of the compensation for the taking that represents the functions and values provided by the Mitigation Area, to procure and replace the functions and values of the Mitigation Area; such replacement to be determined by the Corps and DEQ. Any valuation of the Property or Mitigation Area should include consideration of the values and functions of the Mitigation Area, with particular regard to the cost of providing or obtaining replacement functions and values from mitigation banks or in-lieu fee sites in the same watershed.

Separability Provision

The provisions hereof shall be deemed individual and severable and the invalidity or partial invalidity or unenforceability of any one provision or any portion thereof shall not affect the validity or enforceability of any other provision thereof.

Notice to Government

Any permit application or request made to any government entity, which would affect the Mitigation Area on the Property, shall provide notice and copy of this Declaration to the government entity.

Property Transfers

Owner covenants to provide notice of this Declaration on any legal instrument used to convey any interest in the Property, provided that failure to include such notice shall not extinguish or otherwise impair the validity or enforceability of the restrictions and covenants established by this Declaration.

[*REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK; SIGNATURES APPEAR ON THE FOLLOWING PAGE*]

WITNESS the following signature the day and year first above written.

OWNER:

_____
GREEN RIDGE RECYCLING AND DISPOSAL FACILITY, LLC

COMMONWEALTH OF VIRGINIA,

CITY/COUNTY OF _____, to-wit:

The foregoing instrument was acknowledged before me this ___ day of _____, 201__, by _____, as _____ of _____, a _____, on behalf of the Owner.

My commission expires: _____

My registration number is: _____

_____
Notary Public

DRAFT

DECLARATION OF EASEMENTS AND RESTRICTIONS

OF

GREEN RIDGE RECYCLING AND DISPOSAL FACILITY, LLC

CUMBERLAND COUNTY, VIRGINIA

THIS DECLARATION OF EASEMENTS AND RESTRICTIVE COVENANTS is made this _____day of _____, 2020, by GREEN RIDGE RECYCLING AND DISPOSAL FACILITY LLC (the "**Owner**").

WHEREAS, the owner is the owner of the Property, rights and interests more fully described on Exhibit A attached hereto (the "Property"); it being a portion of the Property conveyed to Owner, by deed from _____, dated _____, and duly recorded in the Clerk's Office of the County of Cumberland in Deed Book _____, at page _____ on the 133.18 acres;

WHEREAS, by one or more agreements (together the "**_____Agreement**") by and between the Owner and Green Ridge Recycling and Disposal Facility LLC, ("**Green Ridge Landfill**" – the **"Developer"**): (a) the Developer agreed to provide compensatory mitigation to Green Ridge Landfill utilizing a portion of the Property; and (b) the Owner agreed to: (i) permit Developer to develop stream mitigation on the Property; (ii) to grant Developer and others the necessary licenses and easements to construct and maintain stream mitigation on the Property; and (iii) to enter into restrictive covenants in order to protect the stream mitigation areas, all as more particularly set forth in the _____Agreement.

WHEREAS, USACE regulations, at 33 C.F.R. § 332.7, require that the aquatic habitats, riparian areas, buffers, and uplands that comprise an overall compensatory mitigation project (the Mitigation Area) must be provided long-term protection through a real estate instrument, such as this Declaration;

WHEREAS, Owner desires to impose on said Property easements and restrictive covenants expressing Owner's intent to preserve 5.34 acres, more or less, of said Property as shown on Exhibit B and as described as the "Conservation Easement Area" (the "**Mitigation Area**") in perpetuity in its natural state as detailed below which easements and covenants shall run with and bind the Mitigation Area and are imposed by Owner freely and voluntarily, in order to provide compensation for aquatic impacts pursuant to U.S. Army Corps of Engineers ("**Corps**" or "**USACE**") Permit No. _____.

WHEREAS, Owner obtained authorization through Virginia Department of Environmental Quality ("**DEQ**") Permit Number _____, issued on _____, by the DEQ in accordance with State Water Control Law Sections 62.1-44.5 and 62.1-44.15:20 for impacts to State Waters.

WHEREAS, on account of the fact that the Property will serve as compensation for such above-

referenced impacts, the USACE and DEQ are third-party beneficiaries under this Declaration of Easements and Restrictions ("Declaration").

NOW THEREFORE THIS DECLARATION WITNESSETH: Owner does hereby declare, covenant and agree, for itself and its successors and assigns, that the Mitigation Area as shown on Exhibit B, shall be hereafter held, leased, transferred, and sold subject to the following conditions and restrictions which shall run with the land and be binding on all parties and persons claiming under them.

Covenants and Restrictions: Preservation Area

Owner shall ensure that this Declaration is recorded in the land records of Cumberland County, and shall ensure that this Declaration is indexed against the land records for the Property. Owner shall ensure that these Covenants and Restrictions run with the Property in perpetuity and be binding on Owner and its successors, assigns, lessees, and any other occupiers or users of the Property.

Owner declares, for itself and its successors and assigns, that the Mitigation Area shall hereafter be held exclusively for conservation purposes, unless otherwise provided herein.

That portion of the Property described as the Mitigation Area and shown on Exhibit B attached hereto shall be preserved in perpetuity in its natural state, by **prohibiting** the following activities:

1. Destruction or alteration of the Mitigation Area shown on Exhibit B other than those alterations expressly authorized in writing by the Norfolk District, USACE, or DEQ, *provided that* the following activities are **allowed**:

   i. Alteration necessary to ensure the success of the Mitigation Area including monitoring, reconstruction or maintenance of the constructed Mitigation Area, as approved by the USACE and DEQ;

   ii. Alteration to construct structures such as walkways, boardwalks, foot trails, wildlife observation or management structures, benches, observation decks, picnic tables, fence posts, and ecological, biological, hydrological or chemical monitoring, observation or management equipment including, without limitation, monitoring wells, or interpretive stations, or other structures as approved by the USACE and DEQ, provided that:

      1. any such structures permit, and do not impede, the natural movement of water, and

      2. structures and/or facilities do not alter the physical, biological, or chemical nature of the protected resource and/or its protected buffer

3. such facilities are constructed and maintained in accordance with all applicable federal and state laws;

iii. Addition of signs constructed in public rights of way by or on behalf of the Virginia Department of Transportation or other governmental agencies;

iv. Removal of vegetation (where not precluded by federal or state law) when approved by the USACE and DEQ and conducted for:

1. Removal of noxious or invasive plants; or

2. Public safety purposes

v. Planting of native species of plants by hand for aesthetic landscaping or screening purposes; and

vi. Alteration as reasonably necessary to comply with state or federal law or appropriate court order.

2. Construction, maintenance or placement of any structures or fills (other than those which currently exist) including but not limited to buildings, mobile homes, fences, signs or other permanent structures that include but are not limited to stream crossings, camp sites, hunting blinds and/or target shooting structures without prior express written approval of the USACE and DEQ. However, boardwalks, wildlife management structures, observation decks, one informative sign, and unpaved foot trails may be placed within the Mitigation Area provided that any such structure does not alter streams, permits the natural movement of water and preserves the natural contour of the ground and subject to prior express written approval by the USACE and DEQ;

3. Ditching, land clearing or discharge of dredge or fill material, including diking, damming, filling, excavating, grading, plowing, flooding/ponding, draining, mining, drilling, placing of trash and yard debris or removing/adding topsoil, sand, or other materials (except as may be necessary on a case-by-case basis with prior express written approval by USACE and DEQ);

4. The use of gas/diesel powered watercraft or vehicles in any location or manner that would alter the preservation area. However, the collection of game and non-commercial use of roads and trails outside of streams in a manner that does not alter the Mitigation Area is permitted.

5. Permitting livestock to graze, inhabit or otherwise enter the Mitigation Area.

6. Cultivating, harvesting, cutting, logging, planting, and pruning of trees and plants, or using fertilizers and spraying with biocides (except as may be necessary on a case-by-case basis with prior express written approval by USACE and DEQ);

Easement

Owner hereby grants, conveys and provides to Developer, USACE, and DEQ, and their

respective agents, employees, contractors, successors and assigns (together, the "**Authorized Parties**"), a non-exclusive easement and right of way for vehicular access, ingress and egress over the Property into the Mitigation Area (collectively, the "**Access Roads**"), in order to perform studies and to perform construction, maintenance, monitoring and inspection of the Mitigation Area. Owner does also hereby grant, convey and provide to the Authorized Parties, and to each of them, a perpetual, non-exclusive easement over the Mitigation Area in order to perform studies and to perform construction, maintenance, monitoring and inspection of the Mitigation Area.

Other Restrictions.

Owner represents and warrants that no restriction of record on the use of the Mitigation Area, nor any presently existing future estate or interest in the Property, nor any lien, obligation, covenant, limitation, lease, mortgage, or encumbrance of any kind precludes the imposition or maintenance of this Declaration or the restrictions established herein.

Notice of Legal Action

The USACE and DEQ shall be provided with a 60-day advance written notice of any legal action concerning this Declaration or of any action to extinguish, void or modify this Declaration in whole or in part.

Amendment

The easements and covenants contained herein shall not hereafter be altered in any respect without the express written approval and consent of the Owner or its successor in interest and the USACE and DEQ. The Owner or its successor may apply to the USACE and DEQ for vacation or modification of this Declaration; however, after recording, these easements and restrictive covenants may only be amended or vacated by a recorded document signed by the USACE, DEQ, and the Owner or its successor in interest.

This Declaration is intended to survive foreclosure, bankruptcy, condemnation or judgments affecting the Property.

Compliance Inspections and Enforcement

The USACE, DEQ, and their authorized agents shall have the right to enter and go upon the Property to inspect the Property and take actions necessary to verify compliance with these restrictive covenants, however, USACE and DEQ shall make a good faith effort to provide reasonable advance notice prior to entering the property and shall limit all access to only that which is necessary to carry out the purposes of the Mitigation project. The restrictive covenants herein shall be enforceable by any proceeding at law or in equity or administrative proceeding by the USACE and DEQ. Failure by any agency (or owner) to enforce any covenant of restriction contained herein shall in no event be deemed a waiver of the right to do so thereafter.

Provision

Should an easement, right, interest or lease on or to the Property, not acknowledged herein, listed in Exhibit A, or identified on Exhibit B, and prior in time and recording to this Declaration, or unrecorded, be exercised in such a manner that it conflicts with or voids the prohibited uses of the Property set out in this Declaration, then Green Ridge Landfill, as the Permittee of USACE Permit No. _____ and of DEQ Permit No. _____, shall be responsible for providing alternative compensatory mitigation in such amounts and of such service and function as the Corps, or any enforcer of this Declaration shall determine in its sole discretion, in accordance with the Clean Water Act and/or Sections 62.1-44.15:20-23 of the Code of Virginia.

Eminent Domain

If any part of the Preservation Area is taken in whole or in part through eminent domain (taking), the Owner is obligated, and hereby agrees, to use the proceeds that represent the proportionate value of the compensation for the taking that represents the functions and values provided by the Mitigation Area, to procure and replace the functions and values of the Mitigation Area; such replacement to be determined by the Corps and DEQ. Any valuation of the Property or Mitigation Area should include consideration of the values and functions of the Mitigation Area, with particular regard to the cost of providing or obtaining replacement functions and values from mitigation banks or in-lieu fee sites in the same watershed.

Separability Provision

The provisions hereof shall be deemed individual and severable and the invalidity or partial invalidity or unenforceability of any one provision or any portion thereof shall not affect the validity or enforceability of any other provision thereof.

Notice to Government

Any permit application or request made to any government entity, which would affect the Mitigation Area on the Property, shall provide notice and copy of this Declaration to the government entity.

Property Transfers

Owner covenants to provide notice of this Declaration on any legal instrument used to convey any interest in the Property, provided that failure to include such notice shall not extinguish or otherwise impair the validity or enforceability of the restrictions and covenants established by this Declaration.

[*REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK; SIGNATURES APPEAR ON THE FOLLOWING PAGE*]

WITNESS the following signature the day and year first above written.

OWNER:

_____
GREEN RIDGE RECYCLING AND DISPOSAL FACILITY, LLC

COMMONWEALTH OF VIRGINIA,

CITY/COUNTY OF _____, to-wit:

The foregoing instrument was acknowledged before me this ___ day of _____, 201__, by _____, as _____ of _____, a _____, on behalf of the Owner.

My commission expires: _____

My registration number is: _____

_____
Notary Public

DRAFT

DECLARATION OF EASEMENTS AND RESTRICTIONS

OF

GREEN RIDGE RECYCLING AND DISPOSAL FACILITY, LLC

CUMBERLAND COUNTY, VIRGINIA

THIS DECLARATION OF EASEMENTS AND RESTRICTIVE COVENANTS is made this _____day of _____, 2020, by GREEN RIDGE RECYCLING AND DISPOSAL FACILITY LLC (the "**Owner**").

WHEREAS, the owner is the owner of the Property, rights and interests more fully described on Exhibit A attached hereto (the "Property"); it being a portion of the Property conveyed to Owner, by deed from _____, dated _____, and duly recorded in the Clerk's Office of the County of Cumberland in Deed Book ____, at page _____ on the 171 acres;

WHEREAS, by one or more agreements (together the "**_____Agreement**") by and between the Owner and Green Ridge Recycling and Disposal Facility LLC, ("**Green Ridge Landfill**" – the **"Developer"**): (a) the Developer agreed to provide compensatory mitigation to Green Ridge Landfill utilizing a portion of the Property; and (b) the Owner agreed to: (i) permit Developer to develop stream mitigation on the Property; (ii) to grant Developer and others the necessary licenses and easements to construct and maintain stream mitigation on the Property; and (iii) to enter into restrictive covenants in order to protect the stream mitigation areas, all as more particularly set forth in the _____Agreement.

WHEREAS, USACE regulations, at 33 C.F.R. § 332.7, require that the aquatic habitats, riparian areas, buffers, and uplands that comprise an overall compensatory mitigation project (the Mitigation Area) must be provided long-term protection through a real estate instrument, such as this Declaration;

WHEREAS, Owner desires to impose on said Property easements and restrictive covenants expressing Owner's intent to preserve 53.45 acres, more or less, of said Property as shown on Exhibit B and as described as the "Conservation Easement Area" (the "**Mitigation Area**") in perpetuity in its natural state as detailed below which easements and covenants shall run with and bind the Mitigation Area and are imposed by Owner freely and voluntarily, in order to provide compensation for aquatic impacts pursuant to U.S. Army Corps of Engineers ("**Corps**" or "**USACE**") Permit No. _____.

WHEREAS, Owner obtained authorization through Virginia Department of Environmental Quality ("**DEQ**") Permit Number _____, issued on _____, by the DEQ in accordance with State Water Control Law Sections 62.1-44.5 and 62.1-44.15:20 for impacts to State Waters.

WHEREAS, on account of the fact that the Property will serve as compensation for such above-

referenced impacts, the USACE and DEQ are third-party beneficiaries under this Declaration of Easements and Restrictions ("Declaration").

NOW THEREFORE THIS DECLARATION WITNESSETH: Owner does hereby declare, covenant and agree, for itself and its successors and assigns, that the Mitigation Area as shown on Exhibit B, shall be hereafter held, leased, transferred, and sold subject to the following conditions and restrictions which shall run with the land and be binding on all parties and persons claiming under them.

Covenants and Restrictions: Preservation Area

Owner shall ensure that this Declaration is recorded in the land records of Cumberland County, and shall ensure that this Declaration is indexed against the land records for the Property. Owner shall ensure that these Covenants and Restrictions run with the Property in perpetuity and be binding on Owner and its successors, assigns, lessees, and any other occupiers or users of the Property.

Owner declares, for itself and its successors and assigns, that the Mitigation Area shall hereafter be held exclusively for conservation purposes, unless otherwise provided herein.

That portion of the Property described as the Mitigation Area and shown on Exhibit B attached hereto shall be preserved in perpetuity in its natural state, by **prohibiting** the following activities:

1. Destruction or alteration of the Mitigation Area shown on Exhibit B other than those alterations expressly authorized in writing by the Norfolk District, USACE, or DEQ, *provided that* the following activities are **allowed**:

   i. Alteration necessary to ensure the success of the Mitigation Area including monitoring, reconstruction or maintenance of the constructed Mitigation Area, as approved by the USACE and DEQ;

   ii. Alteration to construct structures such as walkways, boardwalks, foot trails, wildlife observation or management structures, benches, observation decks, picnic tables, fence posts, and ecological, biological, hydrological or chemical monitoring, observation or management equipment including, without limitation, monitoring wells, or interpretive stations, or other structures as approved by the USACE and DEQ, provided that:

      1. any such structures permit, and do not impede, the natural movement of water, and

      2. structures and/or facilities do not alter the physical, biological, or chemical nature of the protected resource and/or its protected buffer

3. such facilities are constructed and maintained in accordance with all applicable federal and state laws;

iii. Addition of signs constructed in public rights of way by or on behalf of the Virginia Department of Transportation or other governmental agencies;

iv. Removal of vegetation (where not precluded by federal or state law) when approved by the USACE and DEQ and conducted for:

1. Removal of noxious or invasive plants; or

2. Public safety purposes

v. Planting of native species of plants by hand for aesthetic landscaping or screening purposes; and

vi. Alteration as reasonably necessary to comply with state or federal law or appropriate court order.

2. Construction, maintenance or placement of any structures or fills (other than those which currently exist) including but not limited to buildings, mobile homes, fences, signs or other permanent structures that include but are not limited to stream crossings, camp sites, hunting blinds and/or target shooting structures without prior express written approval of the USACE and DEQ. However, boardwalks, wildlife management structures, observation decks, one informative sign, and unpaved foot trails may be placed within the Mitigation Area provided that any such structure does not alter streams, permits the natural movement of water and preserves the natural contour of the ground and subject to prior express written approval by the USACE and DEQ;

3. Ditching, land clearing or discharge of dredge or fill material, including diking, damming, filling, excavating, grading, plowing, flooding/ponding, draining, mining, drilling, placing of trash and yard debris or removing/adding topsoil, sand, or other materials (except as may be necessary on a case-by-case basis with prior express written approval by USACE and DEQ);

4. The use of gas/diesel powered watercraft or vehicles in any location or manner that would alter the preservation area. However, the collection of game and non-commercial use of roads and trails outside of streams in a manner that does not alter the Mitigation Area is permitted.

5. Permitting livestock to graze, inhabit or otherwise enter the Mitigation Area.

6. Cultivating, harvesting, cutting, logging, planting, and pruning of trees and plants, or using fertilizers and spraying with biocides (except as may be necessary on a case-by-case basis with prior express written approval by USACE and DEQ);

Easement

Owner hereby grants, conveys and provides to Developer, USACE, and DEQ, and their

respective agents, employees, contractors, successors and assigns (together, the "**Authorized Parties**"), a non-exclusive easement and right of way for vehicular access, ingress and egress over the Property into the Mitigation Area (collectively, the "**Access Roads**"), in order to perform studies and to perform construction, maintenance, monitoring and inspection of the Mitigation Area. Owner does also hereby grant, convey and provide to the Authorized Parties, and to each of them, a perpetual, non-exclusive easement over the Mitigation Area in order to perform studies and to perform construction, maintenance, monitoring and inspection of the Mitigation Area.

Other Restrictions.

Owner represents and warrants that no restriction of record on the use of the Mitigation Area, nor any presently existing future estate or interest in the Property, nor any lien, obligation, covenant, limitation, lease, mortgage, or encumbrance of any kind precludes the imposition or maintenance of this Declaration or the restrictions established herein.

Notice of Legal Action

The USACE and DEQ shall be provided with a 60-day advance written notice of any legal action concerning this Declaration or of any action to extinguish, void or modify this Declaration in whole or in part.

Amendment

The easements and covenants contained herein shall not hereafter be altered in any respect without the express written approval and consent of the Owner or its successor in interest and the USACE and DEQ. The Owner or its successor may apply to the USACE and DEQ for vacation or modification of this Declaration; however, after recording, these easements and restrictive covenants may only be amended or vacated by a recorded document signed by the USACE, DEQ, and the Owner or its successor in interest.

This Declaration is intended to survive foreclosure, bankruptcy, condemnation or judgments affecting the Property.

Compliance Inspections and Enforcement

The USACE, DEQ, and their authorized agents shall have the right to enter and go upon the Property to inspect the Property and take actions necessary to verify compliance with these restrictive covenants, however, USACE and DEQ shall make a good faith effort to provide reasonable advance notice prior to entering the property and shall limit all access to only that which is necessary to carry out the purposes of the Mitigation project. The restrictive covenants herein shall be enforceable by any proceeding at law or in equity or administrative proceeding by the USACE and DEQ. Failure by any agency (or owner) to enforce any covenant of restriction contained herein shall in no event be deemed a waiver of the right to do so thereafter.

Provision

Should an easement, right, interest or lease on or to the Property, not acknowledged herein, listed in Exhibit A, or identified on Exhibit B, and prior in time and recording to this Declaration, or unrecorded, be exercised in such a manner that it conflicts with or voids the prohibited uses of the Property set out in this Declaration, then Green Ridge Landfill, as the Permittee of USACE Permit No. _____ and of DEQ Permit No. _____ shall be responsible for providing alternative compensatory mitigation in such amounts and of such service and function as the Corps, or any enforcer of this Declaration shall determine in its sole discretion, in accordance with the Clean Water Act and/or Sections 62.1-44.15:20-23 of the Code of Virginia.

Eminent Domain

If any part of the Preservation Area is taken in whole or in part through eminent domain (taking), the Owner is obligated, and hereby agrees, to use the proceeds that represent the proportionate value of the compensation for the taking that represents the functions and values provided by the Mitigation Area, to procure and replace the functions and values of the Mitigation Area; such replacement to be determined by the Corps and DEQ. Any valuation of the Property or Mitigation Area should include consideration of the values and functions of the Mitigation Area, with particular regard to the cost of providing or obtaining replacement functions and values from mitigation banks or in-lieu fee sites in the same watershed.

Separability Provision

The provisions hereof shall be deemed individual and severable and the invalidity or partial invalidity or unenforceability of any one provision or any portion thereof shall not affect the validity or enforceability of any other provision thereof.

Notice to Government

Any permit application or request made to any government entity, which would affect the Mitigation Area on the Property, shall provide notice and copy of this Declaration to the government entity.

Property Transfers

Owner covenants to provide notice of this Declaration on any legal instrument used to convey any interest in the Property, provided that failure to include such notice shall not extinguish or otherwise impair the validity or enforceability of the restrictions and covenants established by this Declaration.

[*REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK; SIGNATURES APPEAR ON THE FOLLOWING PAGE*]

WITNESS the following signature the day and year first above written.

OWNER:

_____
GREEN RIDGE RECYCLING AND DISPOSAL FACILITY, LLC

COMMONWEALTH OF VIRGINIA,

CITY/COUNTY OF _____, to-wit:

The foregoing instrument was acknowledged before me this ___ day of _____, 201__, by _____, as _____ of _____, a _____, on behalf of the Owner.

My commission expires: _____

My registration number is: _____

_____
Notary Public

DRAFT

DECLARATION OF EASEMENTS AND RESTRICTIONS

OF

GREEN RIDGE RECYCLING AND DISPOSAL FACILITY, LLC

CUMBERLAND COUNTY, VIRGINIA

THIS DECLARATION OF EASEMENTS AND RESTRICTIVE COVENANTS is made this _____day of _____, 2020, by GREEN RIDGE RECYCLING AND DISPOSAL FACILITY LLC (the "**Owner**").

WHEREAS, the owner is the owner of the Property, rights and interests more fully described on Exhibit A attached hereto (the "Property"); it being a portion of the Property conveyed to Owner, by deed from _____, dated _____, and duly recorded in the Clerk's Office of the County of Cumberland in Deed Book _____, at page _____ on the 82 acres;

WHEREAS, by one or more agreements (together the "**_____Agreement**") by and between the Owner and Green Ridge Recycling and Disposal Facility LLC, ("**Green Ridge Landfill**" – the **"Developer"**): (a) the Developer agreed to provide compensatory mitigation to Green Ridge Landfill utilizing a portion of the Property; and (b) the Owner agreed to: (i) permit Developer to develop stream mitigation on the Property; (ii) to grant Developer and others the necessary licenses and easements to construct and maintain stream mitigation on the Property; and (iii) to enter into restrictive covenants in order to protect the stream mitigation areas, all as more particularly set forth in the _____Agreement.

WHEREAS, USACE regulations, at 33 C.F.R. § 332.7, require that the aquatic habitats, riparian areas, buffers, and uplands that comprise an overall compensatory mitigation project (the Mitigation Area) must be provided long-term protection through a real estate instrument, such as this Declaration;

WHEREAS, Owner desires to impose on said Property easements and restrictive covenants expressing Owner's intent to preserve 8.33 acres, more or less, of said Property as shown on Exhibit B and as described as the "Conservation Easement Area" (the "**Mitigation Area**") in perpetuity in its natural state as detailed below which easements and covenants shall run with and bind the Mitigation Area and are imposed by Owner freely and voluntarily, in order to provide compensation for aquatic impacts pursuant to U.S. Army Corps of Engineers ("**Corps**" or "**USACE**") Permit No. _____.

WHEREAS, Owner obtained authorization through Virginia Department of Environmental Quality ("**DEQ**") Permit Number _____, issued on _____, by the DEQ in accordance with State Water Control Law Sections 62.1-44.5 and 62.1-44.15:20 for impacts to State Waters.

WHEREAS, on account of the fact that the Property will serve as compensation for such above-

referenced impacts, the USACE and DEQ are third-party beneficiaries under this Declaration of Easements and Restrictions ("Declaration").

NOW THEREFORE THIS DECLARATION WITNESSETH: Owner does hereby declare, covenant and agree, for itself and its successors and assigns, that the Mitigation Area as shown on Exhibit B, shall be hereafter held, leased, transferred, and sold subject to the following conditions and restrictions which shall run with the land and be binding on all parties and persons claiming under them.

Covenants and Restrictions: Preservation Area

Owner shall ensure that this Declaration is recorded in the land records of Cumberland County, and shall ensure that this Declaration is indexed against the land records for the Property. Owner shall ensure that these Covenants and Restrictions run with the Property in perpetuity and be binding on Owner and its successors, assigns, lessees, and any other occupiers or users of the Property.

Owner declares, for itself and its successors and assigns, that the Mitigation Area shall hereafter be held exclusively for conservation purposes, unless otherwise provided herein.

That portion of the Property described as the Mitigation Area and shown on Exhibit B attached hereto shall be preserved in perpetuity in its natural state, by **prohibiting** the following activities:

1. Destruction or alteration of the Mitigation Area shown on Exhibit B other than those alterations expressly authorized in writing by the Norfolk District, USACE, or DEQ, *provided that* the following activities are **allowed**:

   i. Alteration necessary to ensure the success of the Mitigation Area including monitoring, reconstruction or maintenance of the constructed Mitigation Area, as approved by the USACE and DEQ;

   ii. Alteration to construct structures such as walkways, boardwalks, foot trails, wildlife observation or management structures, benches, observation decks, picnic tables, fence posts, and ecological, biological, hydrological or chemical monitoring, observation or management equipment including, without limitation, monitoring wells, or interpretive stations, or other structures as approved by the USACE and DEQ, provided that:

      1. any such structures permit, and do not impede, the natural movement of water, and

      2. structures and/or facilities do not alter the physical, biological, or chemical nature of the protected resource and/or its protected buffer

3. such facilities are constructed and maintained in accordance with all applicable federal and state laws;

iii. Addition of signs constructed in public rights of way by or on behalf of the Virginia Department of Transportation or other governmental agencies;

iv. Removal of vegetation (where not precluded by federal or state law) when approved by the USACE and DEQ and conducted for:

1. Removal of noxious or invasive plants; or

2. Public safety purposes

v. Planting of native species of plants by hand for aesthetic landscaping or screening purposes; and

vi. Alteration as reasonably necessary to comply with state or federal law or appropriate court order.

2. Construction, maintenance or placement of any structures or fills (other than those which currently exist) including but not limited to buildings, mobile homes, fences, signs or other permanent structures that include but are not limited to stream crossings, camp sites, hunting blinds and/or target shooting structures without prior express written approval of the USACE and DEQ. However, boardwalks, wildlife management structures, observation decks, one informative sign, and unpaved foot trails may be placed within the Mitigation Area provided that any such structure does not alter streams, permits the natural movement of water and preserves the natural contour of the ground and subject to prior express written approval by the USACE and DEQ;

3. Ditching, land clearing or discharge of dredge or fill material, including diking, damming, filling, excavating, grading, plowing, flooding/ponding, draining, mining, drilling, placing of trash and yard debris or removing/adding topsoil, sand, or other materials (except as may be necessary on a case-by-case basis with prior express written approval by USACE and DEQ);

4. The use of gas/diesel powered watercraft or vehicles in any location or manner that would alter the preservation area. However, the collection of game and non-commercial use of roads and trails outside of streams in a manner that does not alter the Mitigation Area is permitted.

5. Permitting livestock to graze, inhabit or otherwise enter the Mitigation Area.

6. Cultivating, harvesting, cutting, logging, planting, and pruning of trees and plants, or using fertilizers and spraying with biocides (except as may be necessary on a case-by-case basis with prior express written approval by USACE and DEQ);

Easement

Owner hereby grants, conveys and provides to Developer, USACE, and DEQ, and their

respective agents, employees, contractors, successors and assigns (together, the "**Authorized Parties**"), a non-exclusive easement and right of way for vehicular access, ingress and egress over the Property into the Mitigation Area (collectively, the "**Access Roads**"), in order to perform studies and to perform construction, maintenance, monitoring and inspection of the Mitigation Area. Owner does also hereby grant, convey and provide to the Authorized Parties, and to each of them, a perpetual, non-exclusive easement over the Mitigation Area in order to perform studies and to perform construction, maintenance, monitoring and inspection of the Mitigation Area.

Other Restrictions.

Owner represents and warrants that no restriction of record on the use of the Mitigation Area, nor any presently existing future estate or interest in the Property, nor any lien, obligation, covenant, limitation, lease, mortgage, or encumbrance of any kind precludes the imposition or maintenance of this Declaration or the restrictions established herein.

Notice of Legal Action

The USACE and DEQ shall be provided with a 60-day advance written notice of any legal action concerning this Declaration or of any action to extinguish, void or modify this Declaration in whole or in part.

Amendment

The easements and covenants contained herein shall not hereafter be altered in any respect without the express written approval and consent of the Owner or its successor in interest and the USACE and DEQ. The Owner or its successor may apply to the USACE and DEQ for vacation or modification of this Declaration; however, after recording, these easements and restrictive covenants may only be amended or vacated by a recorded document signed by the USACE, DEQ, and the Owner or its successor in interest.

This Declaration is intended to survive foreclosure, bankruptcy, condemnation or judgments affecting the Property.

Compliance Inspections and Enforcement

The USACE, DEQ, and their authorized agents shall have the right to enter and go upon the Property to inspect the Property and take actions necessary to verify compliance with these restrictive covenants, however, USACE and DEQ shall make a good faith effort to provide reasonable advance notice prior to entering the property and shall limit all access to only that which is necessary to carry out the purposes of the Mitigation project. The restrictive covenants herein shall be enforceable by any proceeding at law or in equity or administrative proceeding by the USACE and DEQ. Failure by any agency (or owner) to enforce any covenant of restriction contained herein shall in no event be deemed a waiver of the right to do so thereafter.

Provision

Should an easement, right, interest or lease on or to the Property, not acknowledged herein, listed in Exhibit A, or identified on Exhibit B, and prior in time and recording to this Declaration, or unrecorded, be exercised in such a manner that it conflicts with or voids the prohibited uses of the Property set out in this Declaration, then Green Ridge Landfill, as the Permittee of USACE Permit No. _____ and of DEQ Permit No. _____, shall be responsible for providing alternative compensatory mitigation in such amounts and of such service and function as the Corps, or any enforcer of this Declaration shall determine in its sole discretion, in accordance with the Clean Water Act and/or Sections 62.1-44.15:20-23 of the Code of Virginia.

Eminent Domain

If any part of the Preservation Area is taken in whole or in part through eminent domain (taking), the Owner is obligated, and hereby agrees, to use the proceeds that represent the proportionate value of the compensation for the taking that represents the functions and values provided by the Mitigation Area, to procure and replace the functions and values of the Mitigation Area; such replacement to be determined by the Corps and DEQ. Any valuation of the Property or Mitigation Area should include consideration of the values and functions of the Mitigation Area, with particular regard to the cost of providing or obtaining replacement functions and values from mitigation banks or in-lieu fee sites in the same watershed.

Separability Provision

The provisions hereof shall be deemed individual and severable and the invalidity or partial invalidity or unenforceability of any one provision or any portion thereof shall not affect the validity or enforceability of any other provision thereof.

Notice to Government

Any permit application or request made to any government entity, which would affect the Mitigation Area on the Property, shall provide notice and copy of this Declaration to the government entity.

Property Transfers

Owner covenants to provide notice of this Declaration on any legal instrument used to convey any interest in the Property, provided that failure to include such notice shall not extinguish or otherwise impair the validity or enforceability of the restrictions and covenants established by this Declaration.

[*REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK; SIGNATURES APPEAR ON THE FOLLOWING PAGE*]

WITNESS the following signature the day and year first above written.

OWNER:

_____
GREEN RIDGE RECYCLING AND DISPOSAL FACILITY, LLC

COMMONWEALTH OF VIRGINIA,

CITY/COUNTY OF _____, to-wit:

The foregoing instrument was acknowledged before me this ___ day of _____, 201__, by _____, as _____ of _____, a _____, on behalf of the Owner.

My commission expires: _____

My registration number is: _____

_____
Notary Public

Attachment B

Concept Permittee Responsible Mitigation Plan

Green Ridge Landfill Stream Mitigation
Conceptual Mitigation Plan
Cumberland County, Virginia

Property Owners:
Green Ridge Recycling and Disposal Facility, LLC
12230 Deerhill Road
Midlothian, VA 23112

Sunny Martin Agee & Edward Martin
3679 Ellisville Drive
Louisa, VA 23093

Blake A Martin & Diedre A.
448 Pinegrove Road
Cartersville, VA 23027

Client/Applicant:
Green Ridge Recycling and Disposal Facility, LLC
12230 Deerhill Road
Midlothian, VA 23112

Prepared By:
RES, LLC
1408 B Roseneath Rd
Richmond, VA 23230

Property Info:
Green Ridge Recycling & Disposal
SITE ADDRESS:
Pinegrove Road/Miller Lane
Cumberland, VA 23040
Parcel IDs:
038-00-0A-00-0007
Acreage: 163.746 acres
Zoning: M2
045-00-0A-00-0001
Acreage: 171 acres
Zoning: M2
045-00-0A-00-0007
Acreage: 82 acres
Zoning: M2
044-00-0A-00-0021
Acreage: 133.18 acres
Zoning: M2
044-00-0A-00-0020
Acreage: 58.18 acres
Zoning: M2
037-00-0A-00-0069
Acreage: 78 acres
Zoning: M2

Sunny Martin Agee & Edward Ray Martin
SITE ADDRESS:
530 Pinegrove Road
Cartersville, VA 23027
Parcel ID: 037-00-0A-00-0070
Acreage: 293.254 acres
Zoning: A2

Blake A Martin & Diedre A.
SITE ADDRESS:
448 Pinegrove Road
Cartersville, VA 23027
Parcel ID: 037-00-0A-00-0063
Acreage: 77.454 acres
Zoning: A2

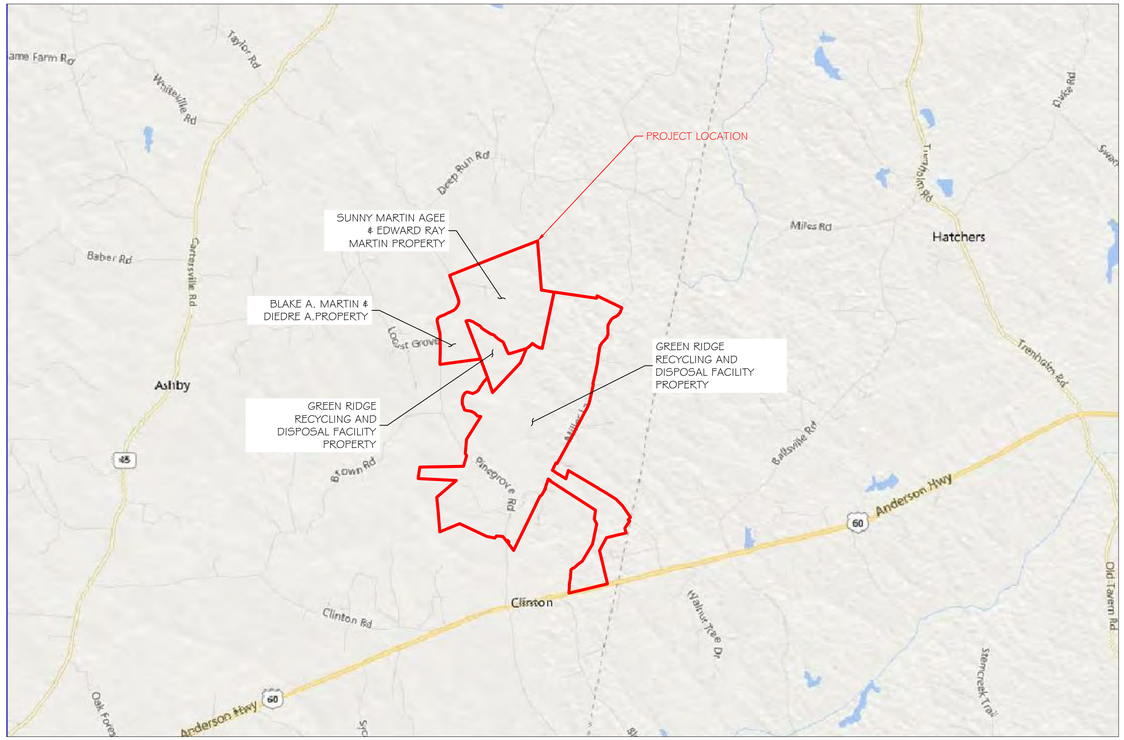

Table of Contents

Crediting		
Mitigation Type	Linear Feet	Projected Credits
Restoration	5,024	5,765
Enhancement	10,863	5,565
Preservation (Martin)	8,077	1,079
Preservation (Landfill)	28,947	3,763
Total	52,911	16,172

DATA SOURCES:

MARTIN PROPERTY: WETLAND WALKOVER OCCURED ON APRIL 14, 2020. STREAMS WERE DELINEATED ON APRIL 8 AND 9, 2020 IN ACCORDANCE WITH PROCEDURES OUTLINED IN THE U.S. ARMY CORPS OF ENGINEERS WETLAND DELINEATION MANUAL.
PROPERY BOUNDARY CAME FROM CUMBERLAND COUNTY PARCEL DATA. CONTOURS CAME FROM NRCS NED DATA.

GREEN RIDGE RECYCLING AND DISPOSAL FACILITY PROPERTY: CONTOURS ARE FROM NRCS NED DATA. SURVEY DATA FROM KOONTZ, BRYANT, JOHNSON, AND WILLIAMS.

JOB NUMBER: 102528

Green Ridge Landfill Stream Mitigation

Green Ridge Landfill Stream Mitigation

PROJECT MANAGER: RA	JOB NUMBER: 102528
DESIGNED: JK	DESIGN TYPE: Concept
DRAWN: JK/LS	INITIAL PLAN DATE: June 2020, REV. April 2021

1408 Roseneath Road, Ste. B Richmond, Virginia 23230
WWW.RES.US

LEGEND:

- Existing Stream Centerline
- Existing Property Lines
- Existing Lidar Surface
- Existing Wetlands

GRAPHIC SCALE: 1" = 250'

0' 250' 500' 750'

NORTH

res
1408 Roseneath Rd., Ste. B Richmond, VA 23230
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Green Ridge Landfill

Martin Property Existing Conditions

Cumberland County, Virginia

REVISIONS:

1

PROJECT STATUS:

CONCEPT

PROJECT MANAGER:	RA
DESIGNED:	JK
DRAWN:	JK/LS
JOB NUMBER:	102528
DESIGN TYPE:	CONCEPT
DATE:	June 2020
SHEET NO:	1 OF 6

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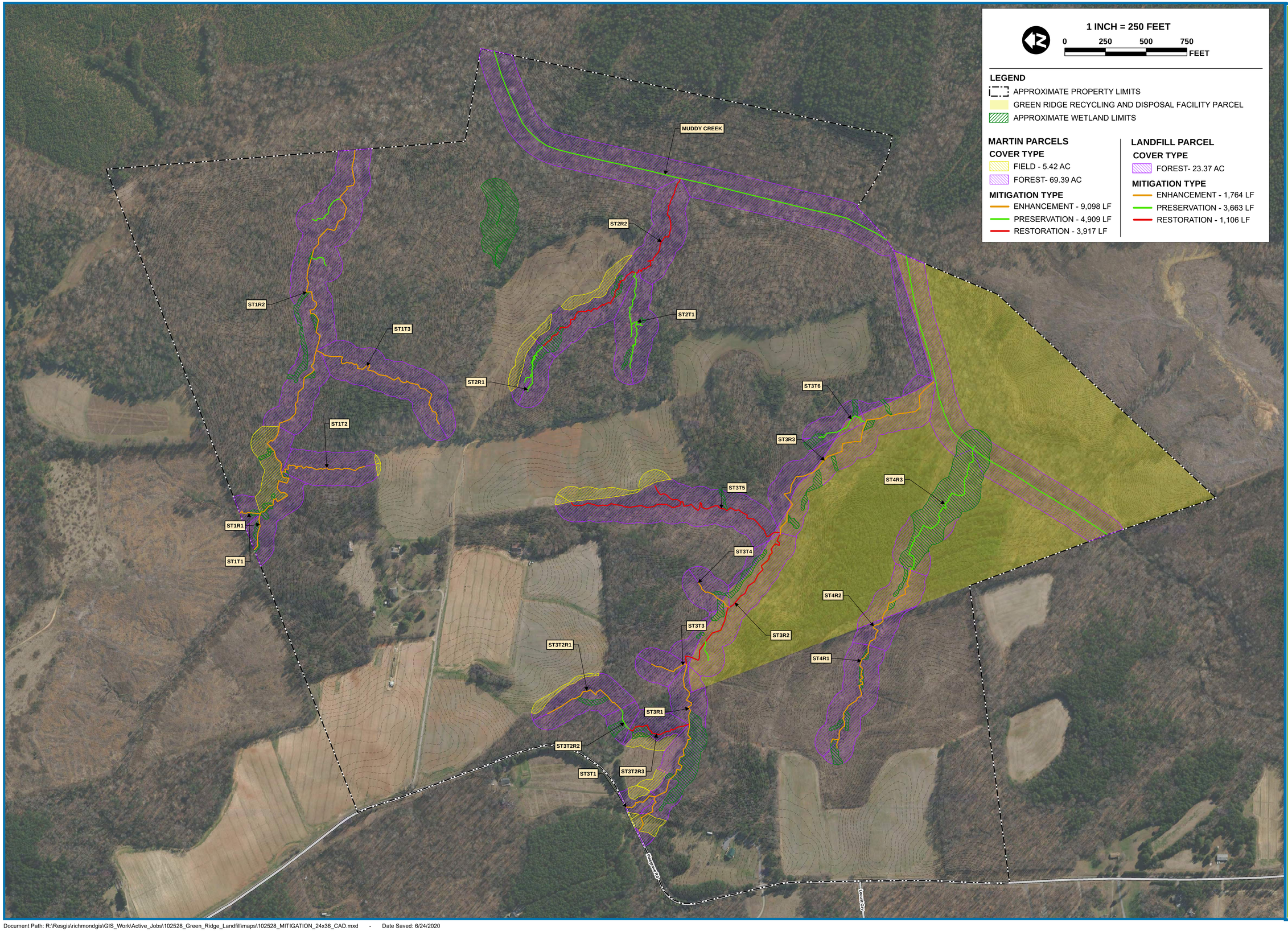

1 INCH = 250 FEET

0 250 500 750 FEET

LEGEND

- APPROXIMATE PROPERTY LIMITS
- GREEN RIDGE RECYCLING AND DISPOSAL FACILITY PARCEL
- APPROXIMATE WETLAND LIMITS

MARTIN PARCELS

COVER TYPE

- FIELD - 5.42 AC
- FOREST- 69.39 AC

MITIGATION TYPE

- ENHANCEMENT - 9,098 LF
- PRESERVATION - 4,909 LF
- RESTORATION - 3,917 LF

LANDFILL PARCEL

COVER TYPE

- FOREST- 23.37 AC

MITIGATION TYPE

- ENHANCEMENT - 1,764 LF
- PRESERVATION - 3,663 LF
- RESTORATION - 1,106 LF

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Green Ridge Recycling and Disposal Facility

Martin Property Mitigation Map

Cumberland County, Virginia

REVISIONS:

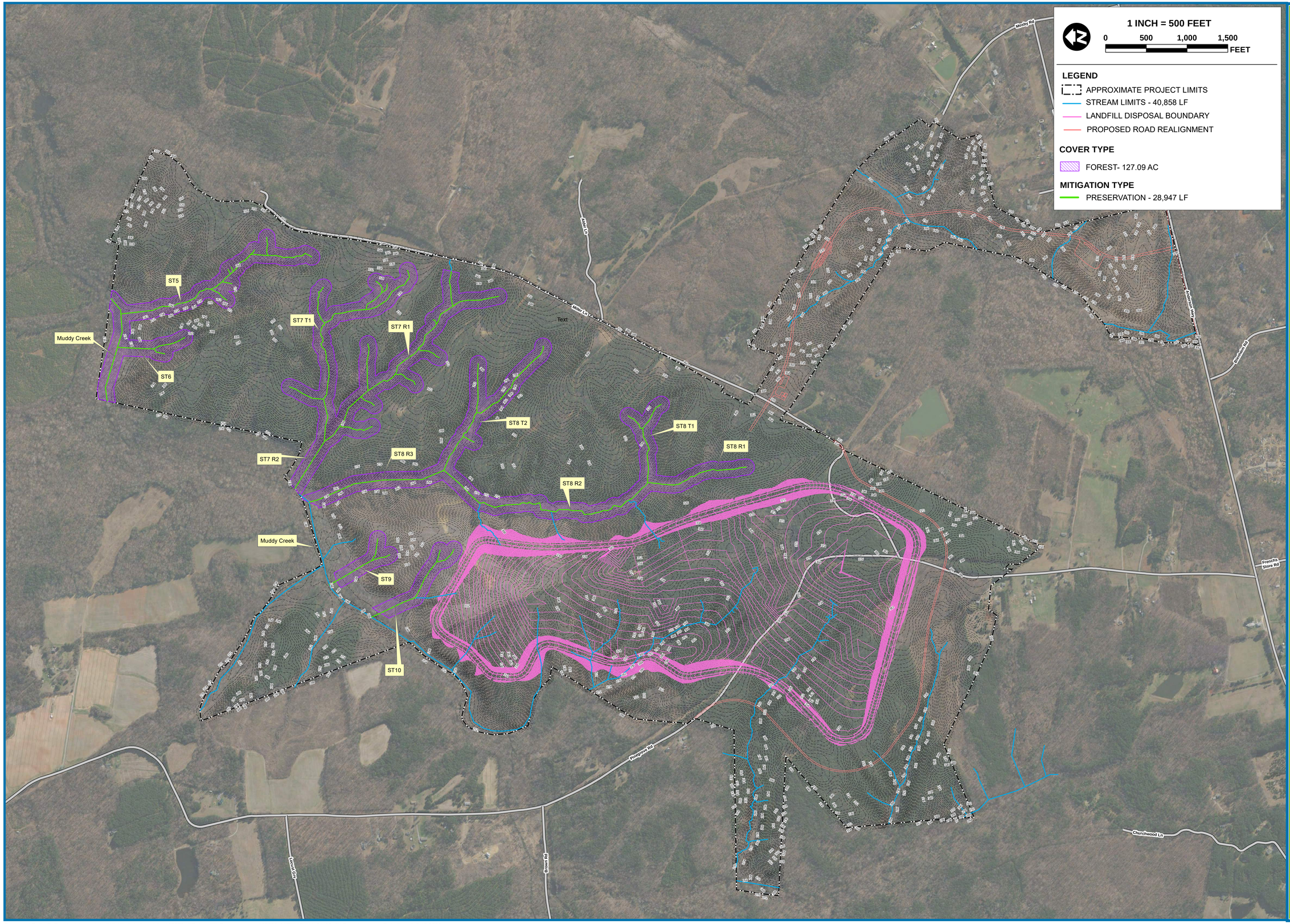
1

PROJECT STATUS:

CONCEPT

PROJECT MANAGER:	RA
DESIGNED:	JK
DRAWN:	JK
JOB NUMBER:	102528
DESIGN TYPE:	CONCEPT
DATE:	June 2020
SHEET NO:	2 of 6

Document Path: R:\Resgis\richmondgis\GIS_Work\Active_Jobs\102528_Green_Ridge_Landfill\maps\102528_MITIGATION_24x36_CAD.mxd - Date Saved: 6/24/2020



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1408 ROSENEATH RD, STE. B RICHMOND, VA 23230
WWW.RES.US

Green Ridge Recycling and Disposal Facility

Recycling & Disposal Facility Property Mitigation

Cumberland County, Virginia

REVISIONS:

1

PROJECT STATUS:

CONCEPT

PROJECT MANAGER:	RA
DESIGNED:	JK
DRAWN:	JK
JOB NUMBER:	102528
DESIGN TYPE:	CONCEPT
DATE:	JUNE 2020
SHEET NO:	3 of 7

Document Path: R:\Resgis\richmondgis\GIS_Work\Active_Jobs\102528_GR_Landfill_Property\maps\102528_MITIGATION_24x36_CAD.mxd - Date Saved: 8/18/2020

Restoration: Natural channel design, including planform, profile, and dimension alterations. Utilizes grading, grade control structures, bank protection, and plantings to achieve a stable channnel.

Enhancement: Process based restoration techniques to push the channel evolution to a stable stage using minimally invasive restoration tactics. Working on the existing alignment and constructing grade control and habitat structures. Bank grading and plantings in sections of significant bank instability may be required.

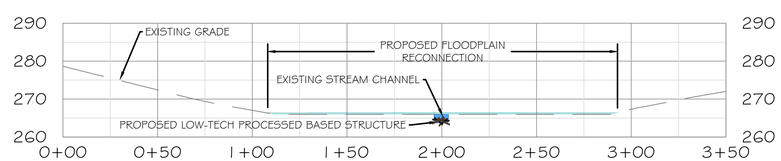
Preservation: Channels in pre-existing stable condition. Buffer planting will be done where needed.

MUDDY CREEK
ST2R2
ST1R2
PROPOSED PROCESSED BASED RESTORATION ALIGNMENT
ST1T3
ST2T1
ST2R1
ST3T6
ST3R3
ST1T1
ST1R1
ST1T2
ST3T5
ST4R3
ST3T4
ST3R2
ST4R2
PROPOSED RESTORATION CHANNEL (POOL) ALIGNMENT
ST3T2R1
ST3T3
ST3R1
ST4R1
ST3T2R3
ST3T2R2

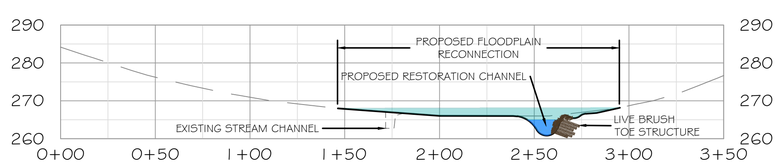
LEGEND:

- Proposed Stream Centerline
- Proposed Enhancement Reach
- Proposed Preservation Reach
- Proposed Top of Bank
- Existing Restoration Stream Centerline
- Existing Property Lines
- LOD
- Approximate Easement Limits ~ 74 AC
- Existing Lidar Surface

GRAPHIC SCALE: 1" = 250'
0 250' 500' 750'
NORTH



PROPOSED PROCESSED BASED RESTORATION PROFILE
VERTICAL SCALE: 1"=20'; HORIZONTAL SCALE: 1"=40'



PROPOSED RESTORATION CHANNEL (POOL) PROFILE
VERTICAL SCALE: 1"=20'; HORIZONTAL SCALE: 1"=40'

res
1408 Roseneath Rd., Ste. B Richmond, VA 23230
WWW.RES.US

Green Ridge Landfill
Martin Propery Concept Plan
Cumberland County, Virginia

REVISIONS:
1

PROJECT STATUS:
CONCEPT

PROJECT MANAGER:	RA
DESIGNED:	JK
DRAWN:	JK/LS
JOB NUMBER:	102528
DESIGN TYPE:	CONCEPT
DATE:	June 2020
SHEET NO:	4 OF 6

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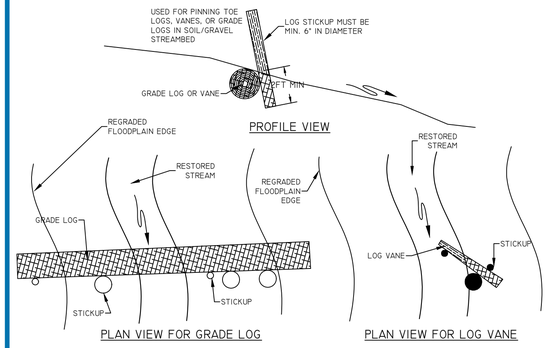
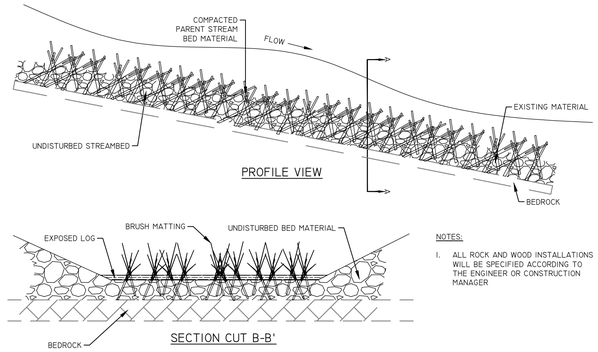
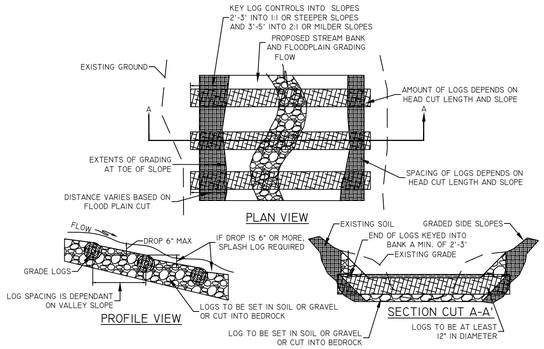


RE-1 ENHANCEMENT LOG STICK-UPS
NOT TO SCALE



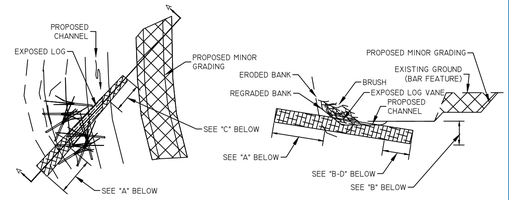
NOTES:
1. ALL ROCK AND WOOD INSTALLATIONS WILL BE SPECIFIED ACCORDING TO THE ENGINEER OR CONSTRUCTION MANAGER

RE-2 ENHANCEMENT BRUSH MAT
NOT TO SCALE



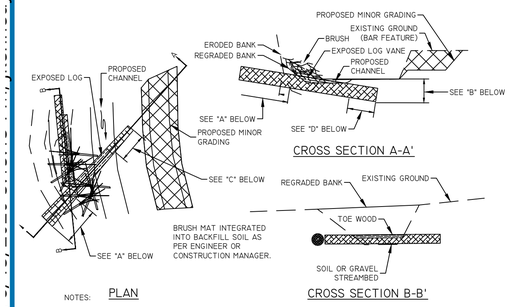
NOTES:
1. GRADE LOGS TO BE SET IN EXISTING SOIL AND GRAVEL OR TO BE CUT INTO BEDROCK.
2. UP TO 50% OF TOPS OF GRADE LOGS MAY BE EXPOSED IN THE STREAMBED WHEN VIEWED FROM THE DOWNSTREAM SIDE PROVIDED A SPLASH LOG IS INCLUDED.
3. SPLASH LOGS ARE REQUIRED WHERE THE LOG IS NOT SET ON TOP OF OR KEYED INTO BEDROCK
4. LOGS SHOULD BE KEYED INTO SLOPES 2'-3' WHERE SIDE SLOPES ARE 1:1, OR 3'-5' INTO 2:1 SIDE SLOPES OR MILDER.

RE-3 ENHANCEMENT GRADE LOG
NOT TO SCALE



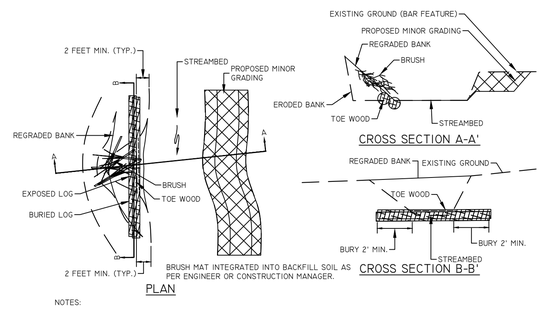
NOTES:
1. RE-GRADE BANK TO FILL ERODED AREA
2. BURY END OF LOG IN STREAMBED
3. LOCATION AND ORIENTATION OF LOG TO BE DETERMINED IN THE FIELD AND ADJUSTED BY ENGINEER OR CONSTRUCTION MANAGER
4. VANE LOG MUST EXTEND 30% MINIMUM OF LENGTH IN RE-GRADED BANK AND MEET AT LEAST (ONE) OF THE FOLLOWING CRITERIA:
   4.A. STREAM SIDE END BURIED 2 FEET MINIMUM INTO STREAMBED
   4.B. MECHANICALLY SECURED TO BEDROCK (SEE ROCK ANCHOR DETAIL)
   4.C. EXTEND 3 FEET MINIMUM INTO BANK OPPOSITE RE-GRADED BANK
5. BRUSH MAY COVER LOG VANE
6. MINOR GRADING OF BARS/BANK MATERIAL WILL BE COMPLETED AT THE ENGINEER OR CONSTRUCTION MANAGER'S GUIDANCE TO USE SEDIMENT TO STABILIZE ERODING HILLSLOPE OR REDIRECT FLOW AWAY FROM HILL SLOPE.
7. BRUSH MAT INTEGRATED INTO BACKFILL SOIL AS PER ENGINEER OR CONSTRUCTION MANAGER.

RE-4 ENHANCEMENT VANE LOG
NOT TO SCALE



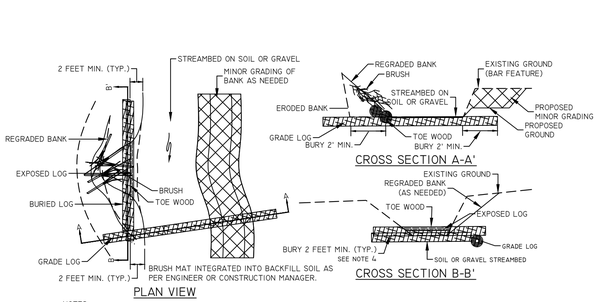
NOTES:
1. RE-GRADE BANK TO FILL ERODED AREA
2. BURY END OF LOG IN STREAMBED
3. LOCATION AND ORIENTATION OF LOG TO BE DETERMINED IN THE FIELD AND ADJUSTED BY ENGINEER OR CONSTRUCTION MANAGER
4. VANE LOG MUST EXTEND 30% MINIMUM OF LENGTH IN RE-GRADED BANK AND MEET AT LEAST ONE OF THE FOLLOWING CRITERIA:
   4.A. STREAM SIDE END BURIED 2 FEET MINIMUM INTO STREAMBED
   4.B. MECHANICALLY SECURED TO BEDROCK (SEE ROCK ANCHOR DETAIL)
   4.C. EXTEND 3 FEET MINIMUM INTO BANK OPPOSITE RE-GRADED BANK
5. BRUSH MAY COVER LOG VANE
6. MINOR GRADING OF BARS/BANK MATERIAL WILL BE COMPLETED AT THE ENGINEER OR CONSTRUCTION MANAGER'S GUIDANCE TO USE SEDIMENT TO STABILIZE ERODING HILLSLOPE OR REDIRECT FLOW AWAY FROM HILL SLOPE
7. BOTTOM TOE LOG SHOULD BE BURIED 50% TO 100% (PERCENT) IN SOIL OR GRAVEL

RE-5 ENHANCEMENT VANE LOG WITH TOE WOOD
NOT TO SCALE



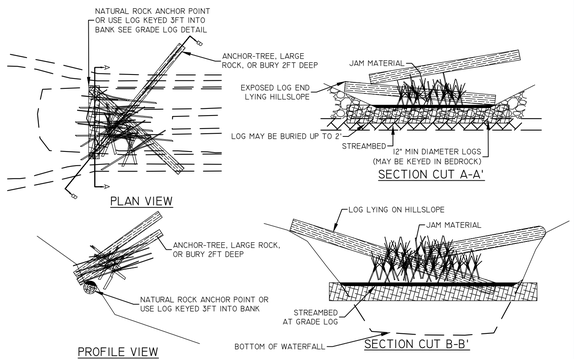
NOTES:
1. EXISTING BANK MAY REQUIRED RE-GRADING WITH TOE WOOD INSTALLATION
2. TOE WOOD LOG DIAMETER A MINIMUM 9 INCHES
3. IF ROCK ANCHOR REQUIRED, ANCHORS LOCATED 4 TO 8 FEET FROM EACH END (SEE ROCK ANCHOR DETAIL)
4. TOE WOOD SHOULD BE:
   4.A. BURIED A MINIMUM OF 2 FEET AT EACH END AND A MINIMUM OF 2 FEET FROM TOE OF SLOPE; OR
   4.B. ANCHORED IN ROCK; OR
   4.C. BUTTRESSED WITH OTHER LARGE WOODY MATERIAL
5. MINOR GRADING OF BARS/BANK MATERIAL WILL BE COMPLETED AT THE ENGINEER OR CONSTRUCTION MANAGER'S GUIDANCE TO USE SEDIMENT TO STABILIZE ERODING HILLSLOPE OR REDIRECT FLOW AWAY FROM HILL SLOPE
6. IF FEASIBLE, NOTCH TOE WOOD INTO BEDROCK 6 TO 9 INCHES
7. BOTTOM TOE LOG SHOULD BE BURIED 50% TO 100% (PERCENT) IN SOIL OR GRAVEL
8. BRUSH MAY COVER TOE WOOD

RE-6 ENHANCEMENT TOE WOOD
NOT TO SCALE

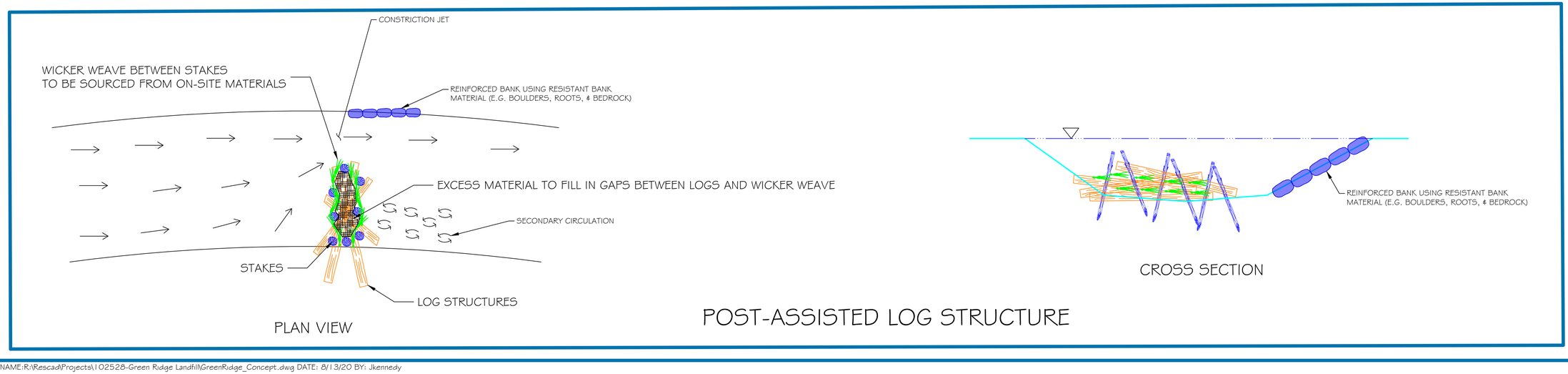


NOTES:
1. EXISTING BANK MAY REQUIRED RE-GRADING WITH TOE WOOD INSTALLATION
2. TOE WOOD LOG DIAMETER A MINIMUM 9 INCHES
3. IF ROCK ANCHOR REQUIRED, ANCHORS LOCATED 4 TO 8 FEET FROM EACH END (SEE ROCK ANCHOR DETAIL)
4. TOE WOOD AND GRADE LOG SHOULD BE:
   4.A. BURIED A MINIMUM OF 2 FEET AT EACH END AND A MINIMUM OF 2 FEET FROM TOE OF SLOPE; OR
   4.B. ANCHORED IN ROCK; OR
   4.C. BUTTRESSED WITH OTHER LARGE WOODY MATERIAL
5. MINOR GRADING OF BARS/BANK MATERIAL WILL BE COMPLETED AT THE ENGINEER OR CONSTRUCTION MANAGER'S GUIDANCE TO USE SEDIMENT TO STABILIZE ERODING HILL SLOPE OR REDIRECT FLOW AWAY FROM HILL SLOPE
6. IF FEASIBLE, NOTCH TOE WOOD INTO BEDROCK 6 TO 9 INCHES
7. BRUSH MAY COVER TOE WOOD

RE-7 ENHANCEMENT TOE WOOD WITH GRADE LOG
NOT TO SCALE



RE-8 ENHANCEMENT STEEP CHANNEL JAM
NOT TO SCALE



POST-ASSISTED LOG STRUCTURE

res
1408 Roseneath Rd, Ste. B Richmond, VA 23230
WWW.RES.US

Green Ridge Recycling and Disposal Facility

Enhancement Structures

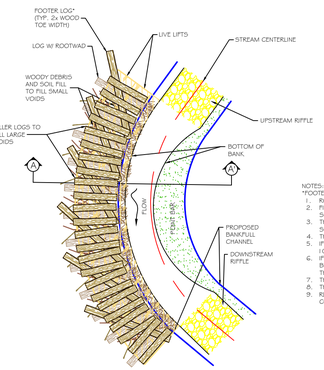
Cumberland County, Virginia

REVISIONS:
1

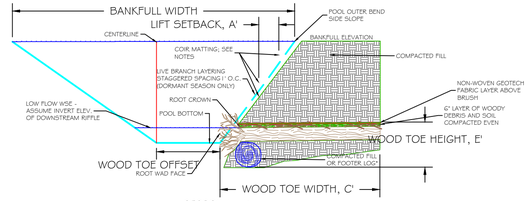
PROJECT STATUS:
CONCEPT

PROJECT MANAGER:	RA
DESIGNED:	JK
DRAWN:	JK
JOB NUMBER:	102528
DESIGN TYPE:	CONCEPT
DATE:	June 2020
SHEET NO:	5 of 6

FILE NAME:R:\Rescad\Projects\102528-Green Ridge Landfill\GreenRidge_Concept.dwg DATE: 8/13/20 BY: Jkennedy

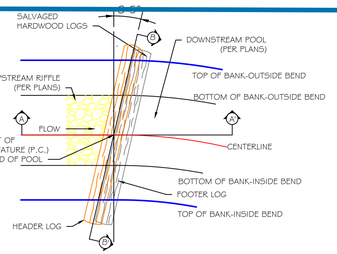


PLAN VIEW
NOT TO SCALE

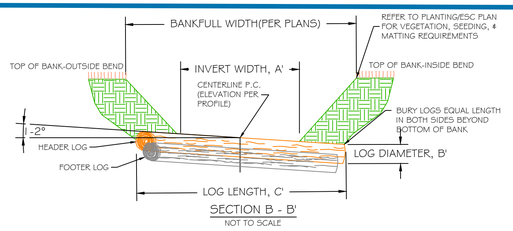


SECTION A - A'
NOT TO SCALE

NOTES:
*FOOTER LOGS ARE OPTIONAL IF SOIL CAN BE COMPACTED TO FORM A SOLID BED FOR LOGS. IF SLUMPING, SETTLING, OR UNDERCUTTING IS A CONCERN, USE FOOTER LOGS.
1. ROOTWADS SHALL BE TOUCHING OR OVERLAPPING SO THAT THERE ARE NO GAPS ALONG THE FACE OF THE REVETMENT.
2. FILLER LOGS SHALL BE ANY SCRAP LOGS NOT USED FOR ROOTWADS AND TIGHTLY FITTED IN TO HOLD THE ROOTWADS IN PLACE. USE WOODY DEBRIS AND SOIL TO FILL SMALLER VOID SPACES.
3. THE WOODY DEBRIS AND SOIL FILL SHALL BE COMPACTED WITH EXCAVATOR BUCKET IN THE VOIDS AROUND THE LOGS AND ON TOP OF THE WOOD TOE LAYER TO PROVIDE AN EVEN SURFACE FOR THE BOTTOM SOIL LIFT.
4. THE SOIL USED FOR LIVE LIFTS SHALL BE FREE OF STICKS, ROOTS, AND ROCKS LARGER THAN GRAVEL. THIS SOIL SHALL CONTAIN NO LESS THAN 50% TOPSOIL.
5. IF ONLY ONE (1) LIFT IS SPECIFIED PER REVETMENT, COIR 700 MAY BE USED AND LIFT SHOULD MATCH CHANNEL GEOMETRY. IF MULTIPLE LIFTS ARE SPECIFIED ALL LIFTS SHALL USE COIR 1000 OR ALTERNATIVE MATERIAL AS APPROVED BY ENGINEER.
6. IF LIFTS ARE COMPLETED DURING GROWING SEASON WHEN LIVE BRANCHES ARE NOT AVAILABLE, USE HIGH DENSITY LIVE STAKING DURING THE FOLLOWING DORMANT SEASON. LIVE BRANCHES SHALL BE OF THE SAME SPECIES SPECIFIED FOR LIVE STAKES OR ALTERNATIVE AS APPROVED BY THE ONSITE ENGINEER. FOLLOW SEEDING AND PLANTING SCHEDULE PROVIDED IN THE PLANS.
7. THE OVERALL SLOPE CREATED BY THE WOOD TOE AND LIVE LIFTS SHALL MATCH THE PROPOSED CROSS SECTION SHAPE FOR THE OUTER BANK OF THE PROPOSED POOL.
8. THE SURFACE SHALL BE FINISHED TO A SMOOTH AND COMPACT SURFACE IN ACCORDANCE WITH THE ELEVATIONS, GRADES, AND/OR CROSS-SECTIONS SHOWN IN THE PLANS.
9. REDRESSING OF CHANNEL, BENCHES, AND FLOODPLAIN WILL LIKELY BE REQUIRED FOLLOWING INSTALLATION OF THIS STRUCTURE AND SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION. ADDITIONAL ROOTWADS OR RIPRAP MAY BE USED TO ADDRESS AREAS OF CONCERN FOR EROSION, ESPECIALLY AT THE ENDS OF THIS STRUCTURE.



PLAN VIEW
NOT TO SCALE



SECTION B - B'
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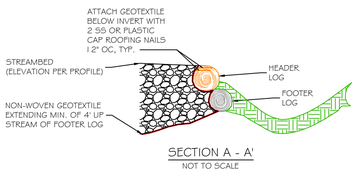
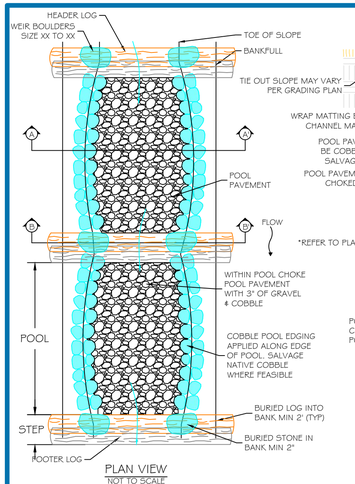


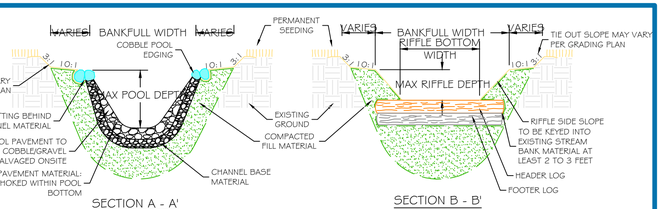
SECTION A - A'
NOT TO SCALE

PLAN SYMBOL

1 LOG SILL
NOT TO SCALE



PLAN VIEW
NOT TO SCALE

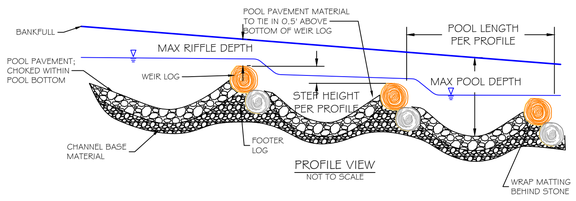


SECTION A - A'
NOT TO SCALE

SECTION B - B'
NOT TO SCALE

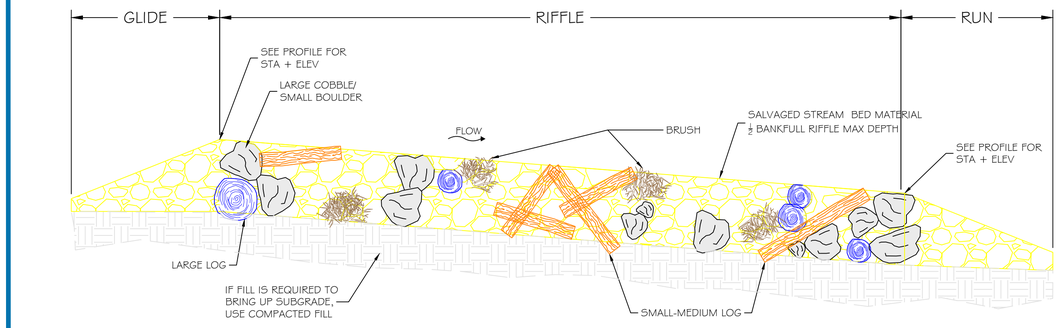
*REFER TO PLANTING/ESC PLAN FOR VEGETATION, SEEDING AND MATTING REQUIREMENTS

NOTES
- LOGS SHALL BE A MIN OF 9' IN LENGTH
- LOGS SHALL BE 9"-12" IN DIAMETER

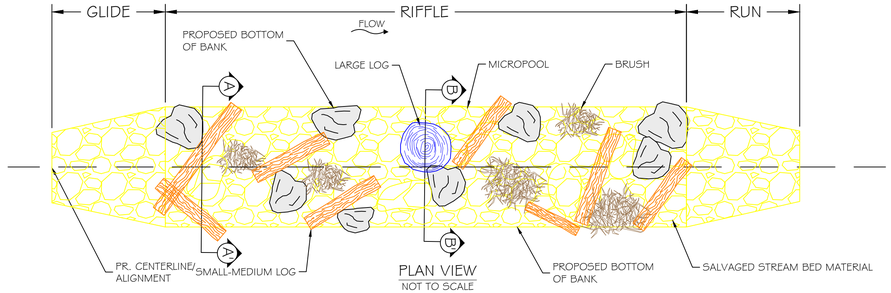


PROFILE VIEW
NOT TO SCALE

5 LOG STEP POOL
NOT TO SCALE



PROFILE VIEW
NOT TO SCALE

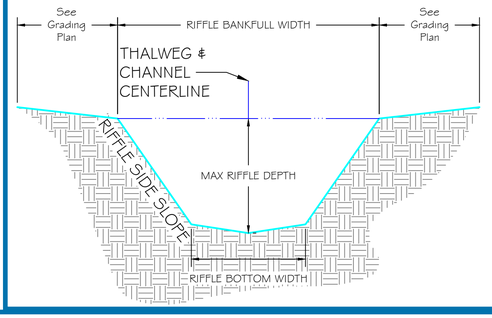


PLAN VIEW
NOT TO SCALE

SECTION A-A'
NOT TO SCALE

SECTION B-B'
NOT TO SCALE

NOTES:
1. CONSTRUCTED BRUSH RIFFLES PROVIDE BED GRADE CONTROL AND RIFFLE HABITAT.
2. OVER EXCAVATE TO SALVAGED COBBLE/GRAVEL DEPTH (1.5') SO THAT FINAL GRADE AFTER STONE MIX IS APPLIED IS +/- 0.1' OF THE GRADES AND ELEVATIONS SPECIFIED IN THE PLAN.
3. RIFFLE MATERIAL WILL BE 1.5' OF COBBLE/GRAVEL; USE NATIVE/SALVAGED MATERIAL IF AVAILABLE.
4. LOGS, BRUSH, AND LARGER COBBLE/SMALL BOULDER SHALL BE BE INCLUDED WITHIN THE BED AS SPECIFIED BY THE ENGINEER; USE NATIVE/SALVAGED MATERIAL IF AVAILABLE.
5. NOTCH THE CENTER OF THE CONSTRUCTED RIFFLE TO GUIDE THE THALWEG INTO THE CENTER OF THE CHANNEL, AS PER TYPICAL CROSS SECTIONS ON THE PLANS.
6. CONTINUE SALVAGED COBBLE/GRAVEL MATERIAL INTO THE GLIDE AND RUN.
7. SET RIFFLE HEAD AND TAIL INVERT ELEVATIONS AS SHOWN IN THE REACH PROFILE.
8. BANK TREATMENTS SHALL BE INSTALLED AFTER INSTALLATION OF THE CONSTRUCTED RIFFLES AND ROUGH BANK GRADING. SEE PLANVIEW FOR BANK TREATMENT TYPE.



Cross Section Geometry

Reach	Bankfull Width (ft)	Max Riffle Depth (ft)	Riffle Bottom Width (ft)	Riffle Side Slope (x:1)
Reach 1	8.0	0.8	6.0	2.0
Reach 2	10.0	1.0	7.2	2.0
Reach 3	4.0	0.5	3.0	1.7
Reach 3-A	4.0	0.5	3.0	1.7
Reach 4	4.0	0.5	3.0	1.7

res
1408 Roseneath Rd, Ste. B Richmond, VA 23230
WWW.RES.US

Green Ridge Recycling and Disposal Facility

Restoration Structures

Cumberland County, Virginia

REVISIONS:
1

PROJECT STATUS:
CONCEPT

PROJECT MANAGER: RA
DESIGNED: JK
DRAWN: JK
JOB NUMBER: 102528
DESIGN TYPE: CONCEPT
DATE: June 2020
SHEET NO: 6 of 6

Attachment C

Preliminary United Stream Methodology (USM)

Forms

Compensation Crediting Form (Form 3)

Unified Stream Methodology for use in Virginia

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	Reach #	Reach Length
102528	Green Ridge Landfill - Martin Property				4/20/2020		1120

Name(s) of Evaluator(s)	Steam Name and Information
BCLS	ST1R1

Restoration: Includes Priority 1, 2, and 3 restoration activities. Does not include buffer width.

List Reaches that will receive full Restoration:

Total length of Full Restoration: 0 | Credit per foot: 1 | Credits = Stream Length X 1.0

Enhancement | Project Credits | Credit per foot: 0

Enhancement With Instream Structures: Addressing Streambank Stability, Grade Control (Vanes, Weirs, Step-Pools), Constructed Riffles

Discuss Length Affected by Instream Structures (justify length):

Length Affected by Instream Structures: 550 | Credit per foot: 0.3 | Credits = Stream Length X 0.3 | 165

Enhancement: Addressing Streambank Stability, Entrenchment Ratios, Access to Floodplain

Mitigation Categories

	Mechanical Bank Work			Biological Bank Work	
	Credit Per Length	Pick One Per Length		May Be Cumulative Per Length	
Activities	Habitat Structures	Create Bankfull Bench	Lay Back Banks	Bio-Remediation Techniques	Stream Bank Plantings
Credit per foot per bank	0.1	0.15	0.1	0.1	0.09

Right Bank	Length	200	0	500	500	500		1700	
	Credit>	0.1	0.15	0.1	0.1	0.09			
		Habitat Struct	bench	lay back bank	bio-remediatio	plantings			CREDITS
Left Bank	Length	200	0	500	500	500		1700	Rt Bank > 165.00 Credit
	Credit >	0.1	0.15	0.1	0.1	0.09			Lt Bank > 165.00 SUM of banks: 330

Σ(Length X Credit) for all areas (banks done separately)

Riparian Areas: Assess the proposed 100 foot buffer on both banks based on the activity proposed. Enter the percentage of area and the credit below. (Widths of buffer above 100' will be determined below)

Activities	Buffer Re-establishment (removal of invasives)	Buffer Planting - Heavy	Buffer Planting - Light	Preservation *High Quality, Restoration, Enhancement*	Preservation *Low Quality*	Buffer area not within preservation width
Credit for 0'-100'	0.4	0.38	0.29	0.14	0.07	0
Credit for beyond 100'	0.2	0.19	0.15	0.07		0

Calculation of "Goal" riparian buffer for each side (SAR length times 100') >>> 112,000 square feet

WITHIN FIRST 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #	1	2						
	Sq. Footage		86259						
	% Area	0%	77%	0%	0%	0%	0%	77%	
	Credit>	0.38	0.14	0.4					
		Heavy Plant	Pres/Replant	Invasives					
Left Bank	Area #	1	2						
	Sq. Footage	62506	10080						CREDITS
	% Area	56%	9%	0%	0%	0%	0%	65%	Rt Bank > 0.11 Credit
	Credit>	0.38	0.14	0.4					Lt Bank > 0.22 0.17 — 190

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Outside First 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #	1	2						
	Sq. Footage								
	% Area	0%	0%	0%	0%	0%	0%	0%	
	Credit>	0.19	0.07	0.2					
		Heavy Plant	Pres/Replant	Invasives					
Left Bank	Area #	1	2						
	Sq. Footage								CREDITS
	% Area	0%	0%	0	0	0	0	0%	Rt Bank > 0.00 Credit
	Credit >	0.19	0.07	0.2					Lt Bank > 0.00 0.00 — 0

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Adjustment Factors: These factors are applied as a multiplier to length of a reach for which they apply

Adjustment Factor Categories

Activity	Rare, Threatened, or Endangered Species or Communities	Livestock Exclusion	Watershed Preservation
Credit	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3
Stream Length Affected			
Credit>			

Record AF length /credit beneath the AF activity. Provide a narrative explanation of the applicable site conditions that warrant an adjustment and justify the AF credit chosen.

Credits > 0

Credits are cumulative and can apply to more than one reach. Each reach can have more than one Adjustment Factors

ΣLength X Credit) for all areas

Total Compensation Credit Provided by Project: 685

Compensation Crediting Form (Form 3)

Unified Stream Methodology for use in Virginia

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	Reach #	Reach Length
102528	Green Ridge Landfill - Martin Property				4/20/2020		2136

Name(s) of Evaluator(s)	Steam Name and Information
BCLS	ST1R2

Restoration: Includes Priority 1, 2, and 3 restoration activities. Does not include buffer width.

List Reaches that will receive full Restoration:

Total length of Full Restoration: 0 — Credit per foot: 1 — Enhancement Project Credits: 0

Credits = Stream Length X 1.0

Enhancement With Instream Structures: Addressing Streambank Stability, Grade Control (Vanes, Weirs, Step-Pools), Constructed Riffles

Discuss Length Affected by Instream Structures (justify length):

Length Affected by Instream Structures: 1000 — Credit per foot: 0.3 — Project Credits: 300

Credits = Stream Length X 0.3

Enhancement: Addressing Streambank Stability, Entrenchment Ratios, Access to Floodplain

Mitigation Categories

	Mechanical Bank Work			Biological Bank Work		
	Credit Per Length	Pick One Per Length		May Be Cumulative Per Length		
Activities	Habitat Structures	Create Bankfull Bench	Lay Back Banks	Bio-Remediation Techniques	Stream Bank Plantings	
Credit per foot per bank	0.1	0.15	0.1	0.1	0.09	
Right Bank Length	500		1000	400	1500	3400
Right Bank Credit>	0.1	0.15	0.1	0.1	0.09	
	Habitat Struct	bench	lay back bank	bio-remediatio	plantings	
Left Bank Length	500		1000	400	1500	3400
Left Bank Credit >	0.1	0.15	0.1	0.1	0.09	

CREDITS: Rt Bank > 325.00 Credit; Lt Bank > 325.00 SUM of banks: 650

Σ(Length X Credit) for all areas (banks done separately)

Riparian Areas: Assess the proposed 100 foot buffer on both banks based on the activity proposed. Enter the percentage of area and the credit below. (Widths of buffer above 100' will be determined below)

Activities	Buffer Re-establishment (removal of invasives)	Buffer Planting - Heavy	Buffer Planting - Light	Preservation *High Quality, Restoration, Enhancement*	Preservation *Low Quality*	Buffer area not within preservation width
Credit for 0'-100'	0.4	0.38	0.29	0.14	0.07	0
Credit for beyond 100'	0.2	0.19	0.15	0.07		0

Calculation of "Goal" riparian buffer for each side (SAR length times 100') >>>> 213,600 square feet

WITHIN FIRST 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #	1	2					
	Sq. Footage		210711					
	% Area	0%	99%	0%	0%	0%	0%	99%
	Credit>	0.38	0.14	0.4				
		Heavy Plant	Pres/Replant	Invasives				
Left Bank	Area #							
	Sq. Footage		224926					
	% Area	0%	105%	0%	0%	0%	0%	105%
	Credit>	0.38	0.14	0.4				

CREDITS: Rt Bank > 0.14 Credit; Lt Bank > 0.15 — 0.15 — 320

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Outside First 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #							
	Sq. Footage							
	% Area	0%	0%	0%	0%	0%	0%	0%
	Credit>	0.019	0.07					
		Heavy Plant	Pres/Replant	Invasives				
Left Bank	Area #							
	Sq. Footage							
	% Area	0%	0%	0	0	0	0	0%
	Credit >	0.19	0.07	0.2				

CREDITS: Rt Bank > 0.00 Credit; Lt Bank > 0.00 — 0.00 — 0

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Adjustment Factors: These factors are applied as a multiplier to length of a reach for which they apply

Adjustment Factor Categories

Activity	Rare, Threatened, or Endangered Species or Communities	Livestock Exclusion	Watershed Preservation
Credit	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3
Stream Length Affected			
Credit>			

Credits are cumulative and can apply to more than one reach. Each reach can have more than one Adjustment Factors

Record AF length /credit beneath the AF activity. Provide a narrative explanation of the applicable site conditions that warrant an adjustment and justify the AF credit chosen.

Credits > 0 — *ΣLength X Credit) for all areas*

Total Compensation Credit Provided by Project: 1270

Compensation Crediting Form (Form 3)

Unified Stream Methodology for use in Virginia

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	Reach #	Reach Length
102528	Green Ridge Landfill - Martin Property				4/20/2020		142

Name(s) of Evaluator(s)	Steam Name and Information
BCLS	ST1T1

Restoration: Includes Priority 1, 2, and 3 restoration activities. Does not include buffer width.

List Reaches that will receive full Restoration:

Total length of Full Restoration: 0 — Credit per foot: 1 — Enhancement Project Credits: 0

Credits = Stream Length X 1.0

Enhancement With Instream Structures: Addressing Streambank Stability, Grade Control (Vanes, Weirs, Step-Pools), Constructed Riffles

Discuss Length Affected by Instream Structures (justify length):

Length Affected by Instream Structures: 50 — Credit per foot: 0.3 — Project Credits: 15

Credits = Stream Length X 0.3

Enhancement: Addressing Streambank Stability, Entrenchment Ratios, Access to Floodplain

Mitigation Categories

	Mechanical Bank Work				Biological Bank Work	
	Credit Per Length	Pick One Per Length			May Be Cumulative Per Length	
Activities	Habitat Structures	Create Bankfull Bench	Lay Back Banks	Bio-Remediation Techniques	Stream Bank Plantings	
Credit per foot per bank	0.1	0.15	0.1	0.1	0.09	
Right Bank Length	50		50		100	5
Right Bank Credit>	0.1	0.15	0.1	0.1	0.09	
	Habitat Struct	bench	lay back bank	bio-remediatio	plantings	
Left Bank Length	50		50		100	5
Left Bank Credit >	0.1	0.15	0.1	0.1	0.09	

CREDITS: Rt Bank > 19.00 — Lt Bank > 19.00 — Credit (SUM of banks): 38

Σ(Length X Credit) for all areas (banks done separately)

Riparian Areas: Assess the proposed 100 foot buffer on both banks based on the activity proposed. Enter the percentage of area and the credit below. (Widths of buffer above 100' will be determined below)

Activities	Buffer Re-establishment (removal of invasives)	Buffer Planting - Heavy	Buffer Planting - Light	Preservation *High Quality, Restoration, Enhancement*	Preservation *Low Quality*	Buffer area not within preservation width
Credit for 0'-100'	0.4	0.38	0.29	0.14	0.07	0
Credit for beyond 100'	0.2	0.19	0.15	0.07		0

Calculation of "Goal" riparian buffer for each side (SAR length times 100') >>>> 14,248 square feet

WITHIN FIRST 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #	1	2					
	Sq. Footage		5686					
	% Area	0%	40%	0%	0%	0%	0%	40%
	Credit>	0.38	0.14	0.4				
		Heavy Plant	Pres/Replant	Invasives				
Left Bank	Area #							
	Sq. Footage		13631					
	% Area	0%	96%	0%	0%	0%	0%	96%
	Credit>	0.38	0.14	0.4				

CREDITS: Rt Bank > 0.06 — Lt Bank > 0.13 — Credit: 0.10 — Project Credits: 14

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Outside First 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #							
	Sq. Footage							
	% Area	0%	0%	0%	0%	0%	0%	0%
	Credit>	0.19	0.07					
		Heavy Plant	Pres/Replant	Invasives				
Left Bank	Area #							
	Sq. Footage							
	% Area	0%	0%	0	0	0	0	0%
	Credit >	0.19	0.07	0.2				

CREDITS: Rt Bank > 0.00 — Lt Bank > 0.00 — Credit: 0.00 — Project Credits: 0

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Adjustment Factors: These factors are applied as a multiplier to length of a reach for which they apply

Adjustment Factor Categories

Activity	Rare, Threatened, or Endangered Species or Communities	Livestock Exclusion	Watershed Preservation
Credit	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3
Stream Length Affected			
Credit>			

Record AF length /credit beneath the AF activity. Provide a narrative explanation of the applicable site conditions that warrant an adjustment and justify the AF credit chosen.

Credits > 0

ΣLength X Credit) for all areas

Total Compensation Credit Provided by Project: 67

Compensation Crediting Form (Form 3)

Unified Stream Methodology for use in Virginia

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	Reach #	Reach Length
102528	Green Ridge Landfill - Martin Property				4/20/2020		630

Name(s) of Evaluator(s)	Steam Name and Information
BCLS	ST1T2

Restoration: Includes Priority 1, 2, and 3 restoration activities. Does not include buffer width.

List Reaches that will receive full Restoration:

Total length of Full Restoration: _____ (Credits = Stream Length X 1.0)

Enhancement: Credit per foot = 1 | Project Credits = 0

Enhancement With Instream Structures: Addressing Streambank Stability, Grade Control (Vanes, Weirs, Step-Pools), Constructed Riffles

Discuss Length Affected by Instream Structures (justify length):

Length Affected by Instream Structures: 300 (Credits = Stream Length X 0.3)

Credit per foot = 0.3 | Project Credits = 90

Enhancement: Addressing Streambank Stability, Entrenchment Ratios, Access to Floodplain

Mitigation Categories

	Mechanical Bank Work			Biological Bank Work	
	Credit Per Length	Pick One Per Length		May Be Cumulative Per Length	
Activities	Habitat Structures	Create Bankfull Bench	Lay Back Banks	Bio-Remediation Techniques	Stream Bank Plantings
Credit per foot per bank	0.1	0.15	0.1	0.1	0.09

Right Bank	Length			150		450		600
	Credit>	0.1	0.15	0.1	0.1	0.09		
		Habitat Struct	bench	lay back bank	bio-remediatio	plantings		
Left Bank	Length			150		450		600
	Credit >	0.1	0.15	0.1	0.1	0.09		

CREDITS: Rt Bank > 55.50 | Lt Bank > 55.50 | Credit (SUM of banks) = 111

Σ(Length X Credit) for all areas (banks done separately)

Riparian Areas: Assess the proposed 100 foot buffer on both banks based on the activity proposed. Enter the percentage of area and the credit below. (Widths of buffer above 100' will be determined below)

Activities	Buffer Re-establishment (removal of invasives)	Buffer Planting - Heavy	Buffer Planting - Light	Preservation *High Quality, Restoration, Enhancement*	Preservation *Low Quality*	Buffer area not within preservation width
Credit for 0'-100'	0.4	0.38	0.29	0.14	0.07	0
Credit for beyond 100'	0.2	0.19	0.15	0.07		0

Calculation of "Goal" riparian buffer for each side (SAR length times 100') >>>> 63,015 square feet

WITHIN FIRST 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #	1	2						
	Sq. Footage	1232	55032						
	% Area	2%	87%	0%	0%	0%	0%	89%	
	Credit>	0.38	0.14	0.4					
		Heavy Plant	Pres/Replant	Invasives					
Left Bank	Area #								
	Sq. Footage	1598	53945						
	% Area	3%	86%	0%	0%	0%	0%	88%	
	Credit>	0.38	0.14	0.4					

CREDITS: Rt Bank > 0.13 | Lt Bank > 0.13 | Credit = 0.13 | 82

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Outside First 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #								
	Sq. Footage								
	% Area	0%	0%	0%	0%	0%	0%	0%	
	Credit>	0.19	0.07						
		Heavy Plant	Pres/Replant	Invasives					
Left Bank	Area #								
	Sq. Footage								
	% Area	0%	0%	0	0	0	0	0%	
	Credit >	0.19	0.07	0.2					

CREDITS: Rt Bank > 0.00 | Lt Bank > 0.00 | Credit = 0.00 | 0

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Adjustment Factors: These factors are applied as a multiplier to length of a reach for which they apply

Adjustment Factor Categories

Activity	Rare, Threatened, or Endangered Species or Communities	Livestock Exclusion	Watershed Preservation
Credit	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3
Stream Length Affected			
Credit>			

Record AF length /credit beneath the AF activity. Provide a narrative explanation of the applicable site conditions that warrant an adjustment and justify the AF credit chosen.

Credits > 0 (ΣLength X Credit) for all areas

Credits are cumulative and can apply to more than one reach. Each reach can have more than one Adjustment Factors

Total Compensation Credit Provided by Project: 283

Compensation Crediting Form (Form 3)

Unified Stream Methodology for use in Virginia

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	Reach #	Reach Length
102528	Green Ridge Landfill - Martin Property				4/20/2020		1143

Name(s) of Evaluator(s)	Steam Name and Information
BCLS	ST1T3

Restoration: Includes Priority 1, 2, and 3 restoration activities. Does not include buffer width.

List Reaches that will receive full Restoration:

Total length of Full Restoration: 0 — Credit per foot: 1 — Enhancement Project Credits: 0

Credits = Stream Length X 1.0

Enhancement With Instream Structures: Addressing Streambank Stability, Grade Control (Vanes, Weirs, Step-Pools), Constructed Riffles

Discuss Length Affected by Instream Structures (justify length):

Length Affected by Instream Structures: 500 — Credit per foot: 0.3 — Project Credits: 150

Credits = Stream Length X 0.3

Enhancement: Addressing Streambank Stability, Entrenchment Ratios, Access to Floodplain

Mitigation Categories

	Mechanical Bank Work			Biological Bank Work		
	Credit Per Length	Pick One Per Length		May Be Cumulative Per Length		
Activities	Habitat Structures	Create Bankfull Bench	Lay Back Banks	Bio-Remediation Techniques	Stream Bank Plantings	
Credit per foot per bank	0.1	0.15	0.1	0.1	0.09	
Right Bank Length			300		800	1100
Right Bank Credit>	0.1	0.15	0.1	0.1	0.09	
	Habitat Struct	bench	lay back bank	bio-remediatio	plantings	
Left Bank Length			300		800	1100
Left Bank Credit >	0.1	0.15	0.1	0.1	0.09	

CREDITS: Rt Bank > 102.00 — Lt Bank > 102.00 — SUM of banks — Credit: 204

Σ(Length X Credit) for all areas (banks done separately)

Riparian Areas: Assess the proposed 100 foot buffer on both banks based on the activity proposed. Enter the percentage of area and the credit below. (Widths of buffer above 100' will be determined below)

Activities	Buffer Re-establishment (removal of invasives)	Buffer Planting - Heavy	Buffer Planting - Light	Preservation *High Quality, Restoration, Enhancement*	Preservation *Low Quality*	Buffer area not within preservation width
Credit for 0'-100'	0.4	0.38	0.29	0.14	0.07	0
Credit for beyond 100'	0.2	0.19	0.15	0.07		0

Calculation of "Goal" riparian buffer for each side (SAR length times 100') >>>> 114,347 square feet

WITHIN FIRST 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #	1	2					
	Sq. Footage		110897					
	% Area	0%	97%	0%	0%	0%	0%	97%
	Credit>	0.38	0.14	0.4				
		Heavy Plant	Pres/Replant	Invasives				
Left Bank	Area #							
	Sq. Footage		97023					
	% Area	0%	85%	0%	0%	0%	0%	85%
	Credit>	0.38	0.14	0.4				

CREDITS: Rt Bank > 0.14 — Lt Bank > 0.12 — Credit: 0.13 — 149

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Outside First 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #							
	Sq. Footage							
	% Area	0%	0%	0%	0%	0%	0%	0%
	Credit>	0.19	0.07					
		Heavy Plant	Pres/Replant	Invasives				
Left Bank	Area #							
	Sq. Footage							
	% Area	0%	0%	0	0	0	0	0%
	Credit >	0.19	0.07	0.2				

CREDITS: Rt Bank > 0.00 — Lt Bank > 0.00 — Credit: 0.00 — 0

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Adjustment Factors: These factors are applied as a multiplier to length of a reach for which they apply

Adjustment Factor Categories

Activity	Rare, Threatened, or Endangered Species or Communities	Livestock Exclusion	Watershed Preservation
Credit	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3
Stream Length Affected			
Credit>			

Record AF length /credit beneath the AF activity. Provide a narrative explanation of the applicable site conditions that warrant an adjustment and justify the AF credit chosen.

Credits > 0 — *ΣLength X Credit) for all areas*

Credits are cumulative and can apply to more than one reach. Each reach can have more than one Adjustment Factors

Total Compensation Credit Provided by Project: 503

Compensation Crediting Form (Form 3)

Unified Stream Methodology for use in Virginia

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	Reach #	Reach Length
102528	Green Ridge Landfill - Martin Property				4/20/2020		482

Name(s) of Evaluator(s)	Steam Name and Information
BCLS	ST2R1

Preservation — Project Credits

Restoration: Includes Priority 1, 2, and 3 restoration activities. Does not include buffer width.

List Reaches that will receive full Restoration:

Total length of Full Restoration: 0 — Credit per foot: 1 — Credits: 0

Credits = Stream Length X 1.0

Enhancement With Instream Structures: Addressing Streambank Stability, Grade Control (Vanes, Weirs, Step-Pools), Constructed Riffles

Discuss Length Affected by Instream Structures (justify length):

Length Affected by Instream Structures: 0 — Credit per foot: 0.3 — Credits: 0

Credits = Stream Length X 0.3

Enhancement: Addressing Streambank Stability, Entrenchment Ratios, Access to Floodplain

Mitigation Categories

		Mechanical Bank Work			Biological Bank Work		
		Credit Per Length	Pick One Per Length		May Be Cumulative Per Length		
Activities		Habitat Structures	Create Bankfull Bench	Lay Back Banks	Bio-Remediation Techniques	Stream Bank Plantings	
Credit per foot per bank		0.1	0.15	0.1	0.1	0.09	
Right Bank	Length						0
	Credit>						
Left Bank	Length						0
	Credit >						

CREDITS: Rt Bank > 0.00; Lt Bank > 0.00; Credit: SUM of banks: 0

Σ(Length X Credit) for all areas (banks done separately)

Riparian Areas: Assess the proposed 100 foot buffer on both banks based on the activity proposed. Enter the percentage of area and the credit below. (Widths of buffer above 100' will be determined below)

Activities	Buffer Re-establishment (removal of invasives)	Buffer Planting - Heavy	Buffer Planting - Light	Preservation *High Quality, Restoration, Enhancement*	Preservation *Low Quality*	Buffer area not within preservation width
Credit for 0'-100'	0.4	0.38	0.29	0.14	0.07	0
Credit for beyond 100'	0.2	0.19	0.15	0.07		0

Calculation of "Goal" riparian buffer for each side (SAR length times 100') >>>> 48,200 square feet

WITHIN FIRST 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #	1	2					
	Sq. Footage		41131					
	% Area	0%	85%	0%	0%	0%	0%	85%
	Credit>	0.38	0.14	0.4				
		Heavy Plant	Pres/Replant	Invasives				
Left Bank	Area #							
	Sq. Footage	18990	22009					
	% Area	39%	46%	0%	0%	0%	0%	85%
	Credit>	0.38	0.14	0.4				

CREDITS: Rt Bank > 0.12; Lt Bank > 0.21; Credit: 0.17: 82

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Outside First 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #							
	Sq. Footage							
	% Area	0%	0%	0%	0%	0%	0%	0%
	Credit>	0.19	0.07					
		Heavy Plant	Pres/Replant	Invasives				
Left Bank	Area #							
	Sq. Footage							
	% Area	0%	0%	0	0	0	0	0%
	Credit >	0.19	0.07	0.2				

CREDITS: Rt Bank > 0.00; Lt Bank > 0.00; Credit: 0.00: 0

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Adjustment Factors: These factors are applied as a multiplier to length of a reach for which they apply

Adjustment Factor Categories

Activity	Rare, Threatened, or Endangered Species or Communities	Livestock Exclusion	Watershed Preservation
Credit	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3
Stream Length Affected			
Credit>			

Credits are cumulative and can apply to more than one reach. Each reach can have more than one Adjustment Factors

Record AF length /credit beneath the AF activity. Provide a narrative explanation of the applicable site conditions that warrant an adjustment and justify the AF credit chosen.

Credits > 0 — *ΣLength X Credit) for all areas*

Total Compensation Credit Provided by Project: 82

Compensation Crediting Form (Form 3)

Unified Stream Methodology for use in Virginia

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	Reach #	Reach Length
102528	Green Ridge Landfill - Martin Property				4/20/2020		1664

Name(s) of Evaluator(s)	Steam Name and Information
BCLS	ST2R2

Restoration: Includes Priority 1, 2, and 3 restoration activities. Does not include buffer width.

List Reaches that will receive full Restoration:

Total length of Full Restoration: 1664 — Credits = Stream Length X 1.0

Restoration	Credit per foot	Project Credits
	1	1664

Enhancement With Instream Structures: Addressing Streambank Stability, Grade Control (Vanes, Weirs, Step-Pools), Constructed Riffles

Discuss Length Affected by Instream Structures (justify length):

Length Affected by Instream Structures: 0 — Credits = Stream Length X 0.3

Credit per foot	Project Credits
0.3	0

Enhancement: Addressing Streambank Stability, Entrenchment Ratios, Access to Floodplain

Mitigation Categories

	Mechanical Bank Work			Biological Bank Work	
	Credit Per Length	Pick One Per Length		May Be Cumulative Per Length	
Activities	Habitat Structures	Create Bankfull Bench	Lay Back Banks	Bio-Remediation Techniques	Stream Bank Plantings
Credit per foot per bank	0.1	0.15	0.1	0.1	0.09

Right Bank	Length							0			
	Credit>										
Left Bank	Length							0	Rt Bank >	0.00	Credit
	Credit >								Lt Bank >	0.00	SUM of banks

Σ(Length X Credit) for all areas (banks done separately)

CREDITS			
			0

Riparian Areas: Assess the proposed 100 foot buffer on both banks based on the activity proposed. Enter the percentage of area and the credit below. (Widths of buffer above 100' will be determined below)

Activities	Buffer Re-establishment (removal of invasives)	Buffer Planting - Heavy	Buffer Planting - Light	Preservation *High Quality, Restoration, Enhancement*	Preservation *Low Quality*	Buffer area not within preservation width
Credit for 0'-100'	0.4	0.38	0.29	0.14	0.07	0
Credit for beyond 100'	0.2	0.19	0.15	0.07		0

Calculation of "Goal" riparian buffer for each side (SAR length times 100') >>>> 166,400 square feet

WITHIN FIRST 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #	1	2								
	Sq. Footage		134344								
	% Area	0%	81%	0%	0%	0%	0%	81%			
	Credit>	0.38	0.14	0.4							
		Heavy Plant	Pres/Replant	Invasives							
Left Bank	Area #										
	Sq. Footage	35059	108703								
	% Area	21%	65%	0%	0%	0%	0%	86%	Rt Bank >	0.11	Credit
	Credit>	0.38	0.14	0.4					Lt Bank >	0.17	0.14

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

CREDITS		
		233

Outside First 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #										
	Sq. Footage										
	% Area	0%	0%	0%	0%	0%	0%	0%			
	Credit>	0.19	0.07								
		Heavy Plant	Pres/Replant	Invasives							
Left Bank	Area #										
	Sq. Footage										
	% Area	0%	0%	0	0	0	0	0%	Rt Bank >	0.00	Credit
	Credit >	0.19	0.07	0.2					Lt Bank >	0.00	0.00

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

CREDITS		
		0

Adjustment Factors: These factors are applied as a multiplier to length of a reach for which they apply

Adjustment Factor Categories

Activity	Rare, Threatened, or Endangered Species or Communities	Livestock Exclusion	Watershed Preservation
Credit	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3
Stream Length Affected			
Credit>			

Credits are cumulative and can apply to more than one reach. Each reach can have more than one Adjustment Factors

Record AF length /credit beneath the AF activity. Provide a narrative explanation of the applicable site conditions that warrant an adjustment and justify the AF credit chosen.

Credits > 0

ΣLength X Credit) for all areas

Total Compensation Credit Provided by Project	1897

Compensation Crediting Form (Form 3)

Unified Stream Methodology for use in Virginia

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	Reach #	Reach Length
102528	Green Ridge Landfill - Martin Property				4/20/2020		878

Name(s) of Evaluator(s)	Steam Name and Information
BCLS	ST2T1

Restoration: Includes Priority 1, 2, and 3 restoration activities. Does not include buffer width.

List Reaches that will receive full Restoration:

Total length of Full Restoration: 0

Credits = Stream Length X 1.0

Preservation	Credit per foot	Project Credits
	1	0

Enhancement With Instream Structures: Addressing Streambank Stability, Grade Control (Vanes, Weirs, Step-Pools), Constructed Riffles

Discuss Length Affected by Instream Structures (justify length):

Length Affected by Instream Structures:

Credits = Stream Length X 0.3

Credit per foot	Project Credits
0.3	0

Enhancement: Addressing Streambank Stability, Entrenchment Ratios, Access to Floodplain

Mitigation Categories

	Mechanical Bank Work			Biological Bank Work		
	Credit Per Length	Pick One Per Length		May Be Cumulative Per Length		
Activities	Habitat Structures	Create Bankfull Bench	Lay Back Banks	Bio-Remediation Techniques	Stream Bank Plantings	
Credit per foot per bank	0.1	0.15	0.1	0.1	0.09	
Right Bank Length						0
Right Bank Credit>	0.1	0.15	0.1	0.1	0.09	
	Habitat Struct	bench	lay back bank	bio-remediatio	plantings	
Left Bank Length						0
Left Bank Credit >	0.1	0.15	0.1	0.1	0.09	

CREDITS

Rt Bank > 0.00

Lt Bank > 0.00

Credit: SUM of banks = 0

Σ(Length X Credit) for all areas (banks done separately)

Riparian Areas: Assess the proposed 100 foot buffer on both banks based on the activity proposed. Enter the percentage of area and the credit below. (Widths of buffer above 100' will be determined below)

Activities	Buffer Re-establishment (removal of invasives)	Buffer Planting - Heavy	Buffer Planting - Light	Preservation *High Quality, Restoration, Enhancement*	Preservation *Low Quality*	Buffer area not within preservation width
Credit for 0'-100'	0.4	0.38	0.29	0.14	0.07	0
Credit for beyond 100'	0.2	0.19	0.15	0.07		0

Calculation of "Goal" riparian buffer for each side (SAR length times 100') >>>> 87,800 square feet

WITHIN FIRST 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03

Two vegetative communities maintained — Subtract 0.06

Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #	1	2					
	Sq. Footage		69895					
	% Area	0%	80%	0%	0%	0%	0%	80%
	Credit>	0.38	0.14	0.4				
		Heavy Plant	Pres/Replant	Invasives				
Left Bank	Area #							
	Sq. Footage		56949					
	% Area	0%	65%	0%	0%	0%	0%	65%
	Credit>	0.38	0.14	0.4				

CREDITS

Rt Bank > 0.11

Lt Bank > 0.09

Credit: 0.10 = 88

Σ(% Area X Credit) for all areas (banks done separately)

AVE of credit for banks X length of project

Outside First 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03

Two vegetative communities maintained — Subtract 0.06

Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #							
	Sq. Footage							
	% Area	0%	0%	0%	0%	0%	0%	0%
	Credit>	0.19	0.07					
		Heavy Plant	Pres/Replant	Invasives				
Left Bank	Area #							
	Sq. Footage							
	% Area	0%	0%	0	0	0	0	0%
	Credit >	0.19	0.07	0.2				

CREDITS

Rt Bank > 0.00

Lt Bank > 0.00

Credit: 0.00 = 0

Σ(% Area X Credit) for all areas (banks done separately)

AVE of credit for banks X length of project

Adjustment Factors: These factors are applied as a multiplier to length of a reach for which they apply

Adjustment Factor Categories

Activity	Rare, Threatened, or Endangered Species or Communities	Livestock Exclusion	Watershed Preservation
Credit	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3
Stream Length Affected			
Credit>			

Credits are cumulative and can apply to more than one reach. Each reach can have more than one Adjustment Factors

Record AF length /credit beneath the AF activity. Provide a narrative explanation of the applicable site conditions that warrant an adjustment and justify the AF credit chosen.

Credits > 0

ΣLength X Credit) for all areas

Total Compensation Credit Provided by Project: 88

Compensation Crediting Form (Form 3)

Unified Stream Methodology for use in Virginia

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	Reach #	Reach Length
102528	Green Ridge Landfill - Martin Property				4/20/2020		1319

Name(s) of Evaluator(s)	Steam Name and Information
BCLS	ST3R1

Restoration: Includes Priority 1, 2, and 3 restoration activities. Does not include buffer width.

List Reaches that will receive full Restoration:

Total length of Full Restoration: 0 — Credits = Stream Length X 1.0

Enhancement: Credit per foot = 1 — Project Credits = 0

Enhancement With Instream Structures: Addressing Streambank Stability, Grade Control (Vanes, Weirs, Step-Pools), Constructed Riffles

Discuss Length Affected by Instream Structures (justify length):

Length Affected by Instream Structures: 500 — Credits = Stream Length X 0.3

Credit per foot = 0.3 — Project Credits = 150

Enhancement: Addressing Streambank Stability, Entrenchment Ratios, Access to Floodplain

Mitigation Categories

	Mechanical Bank Work			Biological Bank Work	
	Credit Per Length	Pick One Per Length		May Be Cumulative Per Length	
Activities	Habitat Structures	Create Bankfull Bench	Lay Back Banks	Bio-Remediation Techniques	Stream Bank Plantings
Credit per foot per bank	0.1	0.15	0.1	0.1	0.09

Right Bank	Length	200		400	200	900		20	
	Credit>	0.1	0.15	0.1	0.1	0.09			
		Habitat Struct	bench	lay back bank	bio-remediatio	plantings			
Left Bank	Length	200		400	200	900		20	
	Credit >	0.1	0.15	0.1	0.1	0.09			

CREDITS: Rt Bank > 161.00 Credit; Lt Bank > 161.00 SUM of banks = 322

Σ(Length X Credit) for all areas (banks done separately)

Riparian Areas: Assess the proposed 100 foot buffer on both banks based on the activity proposed. Enter the percentage of area and the credit below. (Widths of buffer above 100' will be determined below)

Activities	Buffer Re-establishment (removal of invasives)	Buffer Planting - Heavy	Buffer Planting - Light	Preservation *High Quality, Restoration, Enhancement*	Preservation *Low Quality*	Buffer area not within preservation width
Credit for 0'-100'	0.4	0.38	0.29	0.14	0.07	0
Credit for beyond 100'	0.2	0.19	0.15	0.07		0

Calculation of "Goal" riparian buffer for each side (SAR length times 100') >>>> 131,900 square feet

WITHIN FIRST 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #	1	2						
	Sq. Footage	12572	110892						
	% Area	10%	84%	0%	0%	0%	0%	94%	
	Credit>	0.38	0.14	0.4					
		Heavy Plant	Pres/Replant	Invasives					
Left Bank	Area #								
	Sq. Footage	16766	66004						
	% Area	13%	50%	0%	0%	0%	0%	63%	
	Credit>	0.38	0.14	0.4					

CREDITS: Rt Bank > 0.15 Credit; Lt Bank > 0.12 0.14 = 185

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Outside First 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #								
	Sq. Footage								
	% Area	0%	0%	0%	0%	0%	0%	0%	
	Credit>	0.19	0.07						
		Heavy Plant	Pres/Replant	Invasives					
Left Bank	Area #								
	Sq. Footage								
	% Area	0%	0%	0	0	0	0	0%	
	Credit >	0.19	0.07	0.2					

CREDITS: Rt Bank > 0.00 Credit; Lt Bank > 0.00 0.00 = 0

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Adjustment Factors: These factors are applied as a multiplier to length of a reach for which they apply

Adjustment Factor Categories

Activity	Rare, Threatened, or Endangered Species or Communities	Livestock Exclusion	Watershed Preservation
Credit	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3
Stream Length Affected			
Credit>			

Record AF length /credit beneath the AF activity. Provide a narrative explanation of the applicable site conditions that warrant an adjustment and justify the AF credit chosen.

Credits > 0

Credits are cumulative and can apply to more than one reach. Each reach can have more than one Adjustment Factors

ΣLength X Credit) for all areas

Total Compensation Credit Provided by Project: 657

Compensation Crediting Form (Form 3)

Unified Stream Methodology for use in Virginia

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	Reach #	Reach Length
102528	Green Ridge Landfill - Martin Property				4/20/2020		1159

Name(s) of Evaluator(s)	Steam Name and Information
BCLS	ST3R2

Restoration: Includes Priority 1, 2, and 3 restoration activities. Does not include buffer width.

List Reaches that will receive full Restoration:

Total length of Full Restoration: 1159 (Credits = Stream Length X 1.0)

Restoration	Credit per foot	Project Credits
	1	1159

Enhancement With Instream Structures: Addressing Streambank Stability, Grade Control (Vanes, Weirs, Step-Pools), Constructed Riffles

Discuss Length Affected by Instream Structures (justify length):

Length Affected by Instream Structures (Credits = Stream Length X 0.3)

Credit per foot	Project Credits
0.3	0

Enhancement: Addressing Streambank Stability, Entrenchment Ratios, Access to Floodplain

Mitigation Categories

	Mechanical Bank Work			Biological Bank Work	
	Credit Per Length	Pick One Per Length		May Be Cumulative Per Length	
Activities	Habitat Structures	Create Bankfull Bench	Lay Back Banks	Bio-Remediation Techniques	Stream Bank Plantings
Credit per foot per bank	0.1	0.15	0.1	0.1	0.09

		Habitat Structures	Create Bankfull Bench	Lay Back Banks	Bio-Remediation Techniques	Stream Bank Plantings	
Right Bank	Length						0
	Credit>						
		streambank	habitat structures				
Left Bank	Length						0
	Credit >						

CREDITS: Rt Bank > 0.00; Lt Bank > 0.00; Credit = SUM of banks = 0

Σ(Length X Credit) for all areas (banks done separately)

Riparian Areas: Assess the proposed 100 foot buffer on both banks based on the activity proposed. Enter the percentage of area and the credit below. (Widths of buffer above 100' will be determined below)

Activities	Buffer Re-establishment (removal of invasives)	Buffer Planting - Heavy	Buffer Planting - Light	Preservation *High Quality, Restoration, Enhancement*	Preservation *Low Quality*	Buffer area not within preservation width
Credit for 0'-100'	0.4	0.38	0.29	0.14	0.07	0
Credit for beyond 100'	0.2	0.19	0.15	0.07		0

Calculation of "Goal" riparian buffer for each side (SAR length times 100') >>>> 115,900 square feet

WITHIN FIRST 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #	1	2					
	Sq. Footage		119982					
	% Area	0%	104%	0%	0%	0%	0%	104%
	Credit>	0.38	0.14	0.4				
		Heavy Plant	Pres/Replant	Invasives				
Left Bank	Area #							
	Sq. Footage		87919					
	% Area	0%	76%	0%	0%	0%	0%	76%
	Credit>	0.38	0.14	0.4				

CREDITS: Rt Bank > 0.14; Lt Bank > 0.11; Credit = 0.13 = 151

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Outside First 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #							
	Sq. Footage							
	% Area	0%	0%	0%	0%	0%	0%	0%
	Credit>	0.19	0.07					
		Heavy Plant	Pres/Replant	Invasives				
Left Bank	Area #							
	Sq. Footage							
	% Area	0%	0%	0	0	0	0	0%
	Credit >	0.19	0.07	0.2				

CREDITS: Rt Bank > 0.00; Lt Bank > 0.00; Credit = 0.00 = 0

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Adjustment Factors: These factors are applied as a multiplier to length of a reach for which they apply

Adjustment Factor Categories

Activity	Rare, Threatened, or Endangered Species or Communities	Livestock Exclusion	Watershed Preservation
Credit	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3

Record AF length /credit beneath the AF activity. Provide a narrative explanation of the applicable site conditions that warrant an adjustment and justify the AF credit chosen.

Credits > 0

Σ Length X Credit) for all areas

Total Compensation Credit Provided by Project	1310

Compensation Crediting Form (Form 3)

Unified Stream Methodology for use in Virginia

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	Reach #	Reach Length
102528	Green Ridge Landfill - Martin Property				4/20/2020		1614

Name(s) of Evaluator(s)	Steam Name and Information
BCLS	ST3R3

Restoration: Includes Priority 1, 2, and 3 restoration activities. Does not include buffer width.

List Reaches that will receive full Restoration:

Total length of Full Restoration: 0 — Credit per foot: 1 — Enhancement Project Credits: 0

Credits = Stream Length X 1.0

Enhancement With Instream Structures: Addressing Streambank Stability, Grade Control (Vanes, Weirs, Step-Pools), Constructed Riffles

Discuss Length Affected by Instream Structures (justify length):

Length Affected by Instream Structures: 600 — Credit per foot: 0.3 — Project Credits: 180

Credits = Stream Length X 0.3

Enhancement: Addressing Streambank Stability, Entrenchment Ratios, Access to Floodplain

Mitigation Categories

	Mechanical Bank Work			Biological Bank Work		
	Credit Per Length	Pick One Per Length		May Be Cumulative Per Length		
Activities	Habitat Structures	Create Bankfull Bench	Lay Back Banks	Bio-Remediation Techniques	Stream Bank Plantings	
Credit per foot per bank	0.1	0.15	0.1	0.1	0.09	
Right Bank Length	400		800	400	800	40
Right Bank Credit>	0.1	0.15	0.1	0.1	0.09	
	Habitat Struct	bench	lay back bank	bio-remediatio	plantings	
Left Bank Length	400		800	400	800	40
Left Bank Credit >	0.1	0.15	0.1	0.1	0.09	

CREDITS: Rt Bank > 232.00 — Lt Bank > 232.00 — Credit: SUM of banks: 464

Σ(Length X Credit) for all areas (banks done separately)

Riparian Areas: Assess the proposed 100 foot buffer on both banks based on the activity proposed. Enter the percentage of area and the credit below. (Widths of buffer above 100' will be determined below)

Activities	Buffer Re-establishment (removal of invasives)	Buffer Planting - Heavy	Buffer Planting - Light	Preservation *High Quality, Restoration, Enhancement*	Preservation *Low Quality*	Buffer area not within preservation width
Credit for 0'-100'	0.4	0.38	0.29	0.14	0.07	0
Credit for beyond 100'	0.2	0.19	0.15	0.07		0

Calculation of "Goal" riparian buffer for each side (SAR length times 100') >>>> 161,400 square feet

WITHIN FIRST 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #	1	2					
	Sq. Footage		144420					
	% Area	0%	89%	0%	0%	0%	0%	89%
	Credit>	0.38	0.14	0.4				
		Heavy Plant	Pres/Replant	Invasives				
Left Bank	Area #							
	Sq. Footage		135845					
	% Area	0%	84%	0%	0%	0%	0%	84%
	Credit>	0.38	0.14	0.4				

CREDITS: Rt Bank > 0.13 — Lt Bank > 0.12 — Credit: 0.13: 210

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Outside First 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #							
	Sq. Footage							
	% Area	0%	0%	0%	0%	0%	0%	0%
	Credit>	0.19	0.07					
		Heavy Plant	Pres/Replant	Invasives				
Left Bank	Area #							
	Sq. Footage							
	% Area	0%	0%	0	0	0	0	0%
	Credit >	0.19	0.07	0.2				

CREDITS: Rt Bank > 0.00 — Lt Bank > 0.00 — Credit: 0.00: 0

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Adjustment Factors: These factors are applied as a multiplier to length of a reach for which they apply

Adjustment Factor Categories

Activity	Rare, Threatened, or Endangered Species or Communities	Livestock Exclusion	Watershed Preservation
Credit	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3

Record AF length /credit beneath the AF activity. Provide a narrative explanation of the applicable site conditions that warrant an adjustment and justify the AF credit chosen.

Credits > 0

ΣLength X Credit) for all areas

Total Compensation Credit Provided by Project: 854

Compensation Crediting Form (Form 3)

Unified Stream Methodology for use in Virginia

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	Reach #	Reach Length
102528	Green Ridge Landfill - Martin Property				4/20/2020		218

Name(s) of Evaluator(s)	Steam Name and Information
BCLS	ST3T1

Restoration: Includes Priority 1, 2, and 3 restoration activities. Does not include buffer width.

List Reaches that will receive full Restoration:

Total length of Full Restoration: 0

Credits = Stream Length X 1.0

Enhancement	Credit per foot	Project Credits
	1	0

Enhancement With Instream Structures: Addressing Streambank Stability, Grade Control (Vanes, Weirs, Step-Pools), Constructed Riffles

Discuss Length Affected by Instream Structures (justify length):

Length Affected by Instream Structures: 50

Credits = Stream Length X 0.3

Credit per foot	Project Credits
0.3	15

Enhancement: Addressing Streambank Stability, Entrenchment Ratios, Access to Floodplain

Mitigation Categories

	Mechanical Bank Work			Biological Bank Work		
	Credit Per Length	Pick One Per Length		May Be Cumulative Per Length		
Activities	Habitat Structures	Create Bankfull Bench	Lay Back Banks	Bio-Remediation Techniques	Stream Bank Plantings	
Credit per foot per bank	0.1	0.15	0.1	0.1	0.09	

Right Bank	Length	50		50	50	100		5			
	Credit>	0.1	0.15	0.1	0.1	0.09					
		Habitat Struct	bench	lay back bank	bio-remediatio	plantings			CREDITS		
Left Bank	Length	50		50	50	100		5	Rt Bank >	24.00	Credit
	Credit >	0.1	0.15	0.1	0.1	0.09			Lt Bank >	24.00	SUM of banks

Σ(Length X Credit) for all areas (banks done separately)

Credits	Project Credits
48	

Riparian Areas: Assess the proposed 100 foot buffer on both banks based on the activity proposed. Enter the percentage of area and the credit below. (Widths of buffer above 100' will be determined below)

Activities	Buffer Re-establishment (removal of invasives)	Buffer Planting - Heavy	Buffer Planting - Light	Preservation *High Quality, Restoration, Enhancement*	Preservation *Low Quality*	Buffer area not within preservation width
Credit for 0'-100'	0.4	0.38	0.29	0.14	0.07	0
Credit for beyond 100'	0.2	0.19	0.15	0.07		0

Calculation of "Goal" riparian buffer for each side (SAR length times 100') >>>> 21,800 square feet

WITHIN FIRST 100' - Mitigation Categories

One vegetative community maintained					Subtract 0.03	Ensure the sums of % Riparian Blocks equal 100					
Two vegetative communities maintained					Subtract 0.06						
Right Bank	Area #	1	2								
	Sq. Footage	1353	8217								
	% Area	6%	38%	0%	0%	0%	0%	44%			
	Credit>	0.38	0.14	0.4							
		Heavy Plant	Pres/Replant	Invasives							
Left Bank	Area #										
	Sq. Footage	7177	9770						CREDITS		
	% Area	33%	45%	0%	0%	0%	0%	78%	Rt Bank >	0.08	Credit
	Credit>	0.38	0.14	0.4					Lt Bank >	0.19	0.14

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Credits	Project Credits
31	

Outside First 100' - Mitigation Categories

One vegetative community maintained					Subtract 0.03	Ensure the sums of % Riparian Blocks equal 100					
Two vegetative communities maintained					Subtract 0.06						
Right Bank	Area #										
	Sq. Footage										
	% Area	0%	0%	0%	0%	0%	0%	0%			
	Credit>	0.19	0.07								
		Heavy Plant	Pres/Replant	Invasives							
Left Bank	Area #										
	Sq. Footage								CREDITS		
	% Area	0%	0%	0	0	0	0	0%	Rt Bank >	0.00	Credit
	Credit >	0.19	0.07	0.2					Lt Bank >	0.00	0.00

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Credits	Project Credits
0	

Adjustment Factors: These factors are applied as a multiplier to length of a reach for which they apply

Adjustment Factor Categories

Activity	Rare, Threatened, or Endangered Species or Communities	Livestock Exclusion	Watershed Preservation
Credit	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3

Record AF length /credit beneath the AF activity. Provide a narrative explanation of the applicable site conditions that warrant an adjustment and justify the AF credit chosen.

Credits > 0

ΣLength X Credit) for all areas

Total Compensation Credit Provided by Project: 94

Compensation Crediting Form (Form 3)

Unified Stream Methodology for use in Virginia

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	Reach #	Reach Length
102528	Green Ridge Landfill - Martin Property				4/20/2020		574

Name(s) of Evaluator(s)	Steam Name and Information
BCLS	ST3T2R1

Restoration: Includes Priority 1, 2, and 3 restoration activities. Does not include buffer width.

List Reaches that will receive full Restoration:

Total length of Full Restoration: 0 — Credit per foot: 1 — Project Credits: 0

Credits = Stream Length X 1.0

Enhancement With Instream Structures: Addressing Streambank Stability, Grade Control (Vanes, Weirs, Step-Pools), Constructed Riffles

Discuss Length Affected by Instream Structures (justify length):

Length Affected by Instream Structures: 100 — Credit per foot: 0.3 — Project Credits: 30

Credits = Stream Length X 0.3

Enhancement: Addressing Streambank Stability, Entrenchment Ratios, Access to Floodplain

Mitigation Categories

	Mechanical Bank Work			Biological Bank Work	
	Credit Per Length	Pick One Per Length		May Be Cumulative Per Length	
Activities	Habitat Structures	Create Bankfull Bench	Lay Back Banks	Bio-Remediation Techniques	Stream Bank Plantings
Credit per foot per bank	0.1	0.15	0.1	0.1	0.09

Right Bank	Length			400		574		0
	Credit>	0.1	0.15	0.1	0.1	0.09		
		Habitat Struct	bench	lay back bank	bio-remediatio	plantings		
Left Bank	Length			400		574		0
	Credit >	0.1	0.15	0.1	0.1	0.09		

CREDITS: Rt Bank > 91.66 — Lt Bank > 91.66 — SUM of banks: 183

Σ(Length X Credit) for all areas (banks done separately)

Riparian Areas: Assess the proposed 100 foot buffer on both banks based on the activity proposed. Enter the percentage of area and the credit below. (Widths of buffer above 100' will be determined below)

Activities	Buffer Re-establishment (removal of invasives)	Buffer Planting - Heavy	Buffer Planting - Light	Preservation *High Quality, Restoration, Enhancement*	Preservation *Low Quality*	Buffer area not within preservation width
Credit for 0'-100'	0.4	0.38	0.29	0.14	0.07	0
Credit for beyond 100'	0.2	0.19	0.15	0.07		0

Calculation of "Goal" riparian buffer for each side (SAR length times 100') >>>> 57,400 square feet

WITHIN FIRST 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #	1	2						
	Sq. Footage		26897	26897					
	% Area	0%	47%	47%	0%	0%	0%	94%	
	Credit>	0.38	0.14	0.07					
		Heavy Plant	Pres/Replant	low qual					
Left Bank	Area #								
	Sq. Footage	12276	28991	28991					
	% Area	21%	51%	51%	0%	0%	0%	122%	
	Credit>	0.38	0.14	0.07					

CREDITS: Rt Bank > 0.10 — Lt Bank > 0.19 — Credit: 0.15 — Project Credits: 86

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Outside First 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #								
	Sq. Footage								
	% Area	0%	0%	0%	0%	0%	0%	0%	
	Credit>	0.19	0.07						
		Heavy Plant	Pres/Replant	Invasives					
Left Bank	Area #								
	Sq. Footage								
	% Area	0%	0%	0	0	0	0	0%	
	Credit >	0.19	0.07	0.2					

CREDITS: Rt Bank > 0.00 — Lt Bank > 0.00 — Credit: 0.00 — Project Credits: 0

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Adjustment Factors: These factors are applied as a multiplier to length of a reach for which they apply

Adjustment Factor Categories

Activity	Rare, Threatened, or Endangered Species or Communities	Livestock Exclusion	Watershed Preservation
Credit	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3

Record AF length /credit beneath the AF activity. Provide a narrative explanation of the applicable site conditions that warrant an adjustment and justify the AF credit chosen.

Credits > 0

ΣLength X Credit) for all areas

Total Compensation Credit Provided by Project: 299

Compensation Crediting Form (Form 3)

Unified Stream Methodology for use in Virginia

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	Reach #	Reach Length
102528	Green Ridge Landfill - Martin Property				4/20/2020		142

Name(s) of Evaluator(s)	Steam Name and Information
BCLS	ST3T2R2

Restoration: Includes Priority 1, 2, and 3 restoration activities. Does not include buffer width.

List Reaches that will receive full Restoration:

Total length of Full Restoration: 0 — Credit per foot: 1 — Project Credits: 0

Credits = Stream Length X 1.0

Enhancement With Instream Structures: Addressing Streambank Stability, Grade Control (Vanes, Weirs, Step-Pools), Constructed Riffles

Discuss Length Affected by Instream Structures (justify length):

Length Affected by Instream Structures: 0 — Credit per foot: 0.3 — Project Credits: 0

Credits = Stream Length X 0.3

Enhancement: Addressing Streambank Stability, Entrenchment Ratios, Access to Floodplain

Mitigation Categories

	Mechanical Bank Work			Biological Bank Work			
	Credit Per Length	Pick One Per Length			May Be Cumulative Per Length		
Activities	Habitat Structures	Create Bankfull Bench	Lay Back Banks	Bio-Remediation Techniques	Stream Bank Plantings		
Credit per foot per bank	0.1	0.15	0.1	0.1	0.09		

		Habitat Struct	bench	lay back bank	bio-remediatio	plantings		
Right Bank	Length							0
	Credit>	0.1	0.15	0.1	0.1	0.09		
Left Bank	Length							0
	Credit >	0.1	0.15	0.1	0.1	0.09		

CREDITS: Rt Bank > 0.00 — Lt Bank > 0.00 — Credit: SUM of banks: 0

Σ(Length X Credit) for all areas (banks done separately)

Riparian Areas: Assess the proposed 100 foot buffer on both banks based on the activity proposed. Enter the percentage of area and the credit below. (Widths of buffer above 100' will be determined below)

Activities	Buffer Re-establishment (removal of invasives)	Buffer Planting - Heavy	Buffer Planting - Light	Preservation *High Quality, Restoration, Enhancement*	Preservation *Low Quality*	Buffer area not within preservation width
Credit for 0'-100'	0.4	0.38	0.29	0.14	0.07	0
Credit for beyond 100'	0.2	0.19	0.15	0.07		0

Calculation of "Goal" riparian buffer for each side (SAR length times 100') >>>> 14,200 square feet

WITHIN FIRST 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #	1	2					
	Sq. Footage		17837					
	% Area	0%	126%	0%	0%	0%	0%	126%
	Credit>	0.38	0.14	0.4				
		Heavy Plant	Pres/Replant	Invasives				
Left Bank	Area #							
	Sq. Footage	0	11204					
	% Area	0%	79%	0%	0%	0%	0%	79%
	Credit>	0.38	0.14	0.4				

CREDITS: Rt Bank > 0.18 — Lt Bank > 0.11 — Credit: 0.15 — Project Credits: 21

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Outside First 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #							
	Sq. Footage							
	% Area	0%	0%	0%	0%	0%	0%	0%
	Credit>	0.19	0.07					
		Heavy Plant	Pres/Replant	Invasives				
Left Bank	Area #							
	Sq. Footage							
	% Area	0%	0%	0	0	0	0	0%
	Credit >	0.19	0.07	0.2				

CREDITS: Rt Bank > 0.00 — Lt Bank > 0.00 — Credit: 0.00 — Project Credits: 0

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Adjustment Factors: These factors are applied as a multiplier to length of a reach for which they apply

Adjustment Factor Categories

Activity	Rare, Threatened, or Endangered Species or Communities	Livestock Exclusion	Watershed Preservation
Credit	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3

Record AF length /credit beneath the AF activity. Provide a narrative explanation of the applicable site conditions that warrant an adjustment and justify the AF credit chosen.

Credits > 0

ΣLength X Credit) for all areas

Total Compensation Credit Provided by Project: 21

Compensation Crediting Form (Form 3)

Unified Stream Methodology for use in Virginia

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	Reach #	Reach Length
102528	Green Ridge Landfill - Martin Property				4/20/2020		441

Name(s) of Evaluator(s)	Steam Name and Information
BCLS	ST3T2R3

Restoration: Includes Priority 1, 2, and 3 restoration activities. Does not include buffer width.

List Reaches that will receive full Restoration:

Total length of Full Restoration: 441 — Credits = Stream Length X 1.0

Restoration	Credit per foot	Project Credits
	1	441

Enhancement With Instream Structures: Addressing Streambank Stability, Grade Control (Vanes, Weirs, Step-Pools), Constructed Riffles

Discuss Length Affected by Instream Structures (justify length):

Length Affected by Instream Structures: 0 — Credits = Stream Length X 0.3

Credit per foot	Project Credits
0.3	0

Enhancement: Addressing Streambank Stability, Entrenchment Ratios, Access to Floodplain

Mitigation Categories

	Mechanical Bank Work			Biological Bank Work			
	Credit Per Length	Pick One Per Length			May Be Cumulative Per Length		
Activities	Habitat Structures	Create Bankfull Bench	Lay Back Banks	Bio-Remediation Techniques	Stream Bank Plantings		
Credit per foot per bank	0.1	0.15	0.1	0.1	0.09		

Right Bank	Length							0
	Credit>	0.1	0.15	0.1	0.1	0.09		
		Habitat Struct	bench	lay back bank	bio-remediatio	plantings		
Left Bank	Length							0
	Credit >	0.1	0.15	0.1	0.1	0.09		

CREDITS: Rt Bank > 0.00; Lt Bank > 0.00; Credit = SUM of banks: 0

Σ(Length X Credit) for all areas (banks done separately)

Riparian Areas: Assess the proposed 100 foot buffer on both banks based on the activity proposed. Enter the percentage of area and the credit below. (Widths of buffer above 100' will be determined below)

Activities	Buffer Re-establishment (removal of invasives)	Buffer Planting - Heavy	Buffer Planting - Light	Preservation *High Quality, Restoration, Enhancement*	Preservation *Low Quality*	Buffer area not within preservation width
Credit for 0'-100'	0.4	0.38	0.29	0.14	0.07	0
Credit for beyond 100'	0.2	0.19	0.15	0.07		0

Calculation of "Goal" riparian buffer for each side (SAR length times 100') >>>> 44,100 square feet

WITHIN FIRST 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #	1	2						
	Sq. Footage	22118	13339						
	% Area	50%	30%	0%	0%	0%	0%	80%	
	Credit>	0.38	0.14	0.4					
		Heavy Plant	Pres/Replant	Invasives					
Left Bank	Area #								
	Sq. Footage	0	31396						
	% Area	0%	71%	0%	0%	0%	0%	71%	
	Credit>	0.38	0.14	0.4					

CREDITS: Rt Bank > 0.23; Lt Bank > 0.10; Credit = 0.17; Project Credits = 75

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Outside First 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #								
	Sq. Footage								
	% Area	0%	0%	0%	0%	0%	0%	0%	
	Credit>	0.19	0.07						
		Heavy Plant	Pres/Replant	Invasives					
Left Bank	Area #								
	Sq. Footage								
	% Area	0%	0%	0	0	0	0	0%	
	Credit >	0.19	0.07	0.2					

CREDITS: Rt Bank > 0.00; Lt Bank > 0.00; Credit = 0.00; Project Credits = 0

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Adjustment Factors: These factors are applied as a multiplier to length of a reach for which they apply

Adjustment Factor Categories

Activity	Rare, Threatened, or Endangered Species or Communities	Livestock Exclusion	Watershed Preservation
Credit	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3

Record AF length /credit beneath the AF activity. Provide a narrative explanation of the applicable site conditions that warrant an adjustment and justify the AF credit chosen.

Credits > 0

Σ Length X Credit) for all areas

Total Compensation Credit Provided by Project	516

Compensation Crediting Form (Form 3)

Unified Stream Methodology for use in Virginia

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	Reach #	Reach Length
102528	Green Ridge Landfill - Martin Property				4/20/2020		240

Name(s) of Evaluator(s)	Steam Name and Information
BCLS	ST3T3

Restoration: Includes Priority 1, 2, and 3 restoration activities. Does not include buffer width.

List Reaches that will receive full Restoration:

Total length of Full Restoration: 0 — Credits = Stream Length X 1.0

Enhancement	Credit per foot	Project Credits
	1	0

Enhancement With Instream Structures: Addressing Streambank Stability, Grade Control (Vanes, Weirs, Step-Pools), Constructed Riffles

Discuss Length Affected by Instream Structures (justify length):

Length Affected by Instream Structures: 50 — Credits = Stream Length X 0.3

Credit per foot	Project Credits
0.3	15

Enhancement: Addressing Streambank Stability, Entrenchment Ratios, Access to Floodplain

Mitigation Categories

	Mechanical Bank Work				Biological Bank Work		
	Credit Per Length	Pick One Per Length			May Be Cumulative Per Length		
Activities	Habitat Structures	Create Bankfull Bench	Lay Back Banks		Bio-Remediation Techniques	Stream Bank Plantings	
Credit per foot per bank	0.1	0.15	0.1		0.1	0.09	
Right Bank Length	100		100		150		10
Right Bank Credit>	0.1	0.15	0.1	0.1	0.09		
	Habitat Struct	bench	lay back bank	bio-remediatio	plantings		
Left Bank Length	100		100		150		10
Left Bank Credit >	0.1	0.15	0.1	0.1	0.09		

CREDITS: Rt Bank > 33.50 — Lt Bank > 33.50 — Credit: SUM of banks = 67

Σ(Length X Credit) for all areas (banks done separately)

Riparian Areas: Assess the proposed 100 foot buffer on both banks based on the activity proposed. Enter the percentage of area and the credit below. (Widths of buffer above 100' will be determined below)

Activities	Buffer Re-establishment (removal of invasives)	Buffer Planting - Heavy	Buffer Planting - Light	Preservation *High Quality, Restoration, Enhancement*	Preservation *Low Quality*	Buffer area not within preservation width
Credit for 0'-100'	0.4	0.38	0.29	0.14	0.07	0
Credit for beyond 100'	0.2	0.19	0.15	0.07		0

Calculation of "Goal" riparian buffer for each side (SAR length times 100') >>>> 24,000 square feet

WITHIN FIRST 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #	1	2					
	Sq. Footage		13184	13184				
	% Area	0%	55%	55%	0%	0%	0%	110%
	Credit>	0.38	0.14	0.07				
		Heavy Plant	Pres/Replant	low qual				
Left Bank	Area #							
	Sq. Footage	0	11612	11612				
	% Area	0%	48%	48%	0%	0%	0%	97%
	Credit>	0.38	0.14	0.07				

5806.191266

CREDITS: Rt Bank > 0.12 — Lt Bank > 0.10 — Credit: 0.11 = 26

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Outside First 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #							
	Sq. Footage							
	% Area	0%	0%	0%	0%	0%	0%	0%
	Credit>	0.19	0.07					
		Heavy Plant	Pres/Replant	Invasives				
Left Bank	Area #							
	Sq. Footage							
	% Area	0%	0%	0	0	0	0	0%
	Credit >	0.19	0.07	0.2				

CREDITS: Rt Bank > 0.00 — Lt Bank > 0.00 — Credit: 0.00 = 0

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Adjustment Factors: These factors are applied as a multiplier to length of a reach for which they apply

Adjustment Factor Categories

Activity	Rare, Threatened, or Endangered Species or Communities	Livestock Exclusion	Watershed Preservation
Credit	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3

Record AF length /credit beneath the AF activity. Provide a narrative explanation of the applicable site conditions that warrant an adjustment and justify the AF credit chosen.

Credits > 0

Σ Length X Credit) for all areas

Total Compensation Credit Provided by Project	108

Compensation Crediting Form (Form 3)

Unified Stream Methodology for use in Virginia

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	Reach #	Reach Length
102528	Green Ridge Landfill - Martin Property				4/20/2020		255

Name(s) of Evaluator(s)	Steam Name and Information
BCLS	ST3T4

Restoration: Includes Priority 1, 2, and 3 restoration activities. Does not include buffer width.

List Reaches that will receive full Restoration:

Total length of Full Restoration: 0 — Credits = Stream Length X 1.0

Enhancement	Credit per foot	Project Credits
	1	0

Enhancement With Instream Structures: Addressing Streambank Stability, Grade Control (Vanes, Weirs, Step-Pools), Constructed Riffles

Discuss Length Affected by Instream Structures (justify length):

Length Affected by Instream Structures: 50 — Credits = Stream Length X 0.3

Credit per foot	Project Credits
0.3	15

Enhancement: Addressing Streambank Stability, Entrenchment Ratios, Access to Floodplain

Mitigation Categories

	Mechanical Bank Work				Biological Bank Work		
	Credit Per Length	Pick One Per Length			May Be Cumulative Per Length		
Activities	Habitat Structures	Create Bankfull Bench	Lay Back Banks		Bio-Remediation Techniques	Stream Bank Plantings	
Credit per foot per bank	0.1	0.15	0.1		0.1	0.09	
Right Bank Length	100		100		150		10
Right Bank Credit>	0.1	0.15	0.1	0.1	0.09		
	Habitat Struct	bench	lay back bank	bio-remediatio	plantings		
Left Bank Length	100		100		150		10
Left Bank Credit >	0.1	0.15	0.1	0.1	0.09		

CREDITS: Rt Bank > 33.50; Lt Bank > 33.50; Credit (SUM of banks) = 67

Σ(Length X Credit) for all areas (banks done separately)

Riparian Areas: Assess the proposed 100 foot buffer on both banks based on the activity proposed. Enter the percentage of area and the credit below. (Widths of buffer above 100' will be determined below)

Activities	Buffer Re-establishment (removal of invasives)	Buffer Planting - Heavy	Buffer Planting - Light	Preservation *High Quality, Restoration, Enhancement*	Preservation *Low Quality*	Buffer area not within preservation width
Credit for 0'-100'	0.4	0.38	0.29	0.14	0.07	0
Credit for beyond 100'	0.2	0.19	0.15	0.07		0

Calculation of "Goal" riparian buffer for each side (SAR length times 100') >>>> 25,500 square feet

WITHIN FIRST 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

	Area #	1	2				
Right Bank	Sq. Footage		15391	15391			
	% Area	0%	60%	60%	0%	0%	0% 121%
	Credit>	0.38	0.14	0.07			
		Heavy Plant	Pres/Replant	low qual			
Left Bank	Area #						
	Sq. Footage	0	13425	13425			
	% Area	0%	53%	53%	0%	0%	0% 105%
	Credit>	0.38	0.14	0.07			

CREDITS: Rt Bank > 0.13; Lt Bank > 0.11; Credit = 0.12 → 31

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Outside First 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

	Area #						
Right Bank	Sq. Footage						
	% Area	0%	0%	0%	0%	0%	0% 0%
	Credit>	0.19	0.07				
		Heavy Plant	Pres/Replant	Invasives			
Left Bank	Area #						
	Sq. Footage						
	% Area	0%	0%	0	0	0	0 0%
	Credit >	0.19	0.07	0.2			

CREDITS: Rt Bank > 0.00; Lt Bank > 0.00; Credit = 0

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Adjustment Factors: These factors are applied as a multiplier to length of a reach for which they apply

Adjustment Factor Categories

Activity	Rare, Threatened, or Endangered Species or Communities	Livestock Exclusion	Watershed Preservation
Credit	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3

Record AF length /credit beneath the AF activity. Provide a narrative explanation of the applicable site conditions that warrant an adjustment and justify the AF credit chosen.

Credits > 0

ΣLength X Credit) for all areas

Total Compensation Credit Provided by Project: 113

Compensation Crediting Form (Form 3)

Unified Stream Methodology for use in Virginia

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	Reach #	Reach Length
102528	Green Ridge Landfill - Martin Property				4/20/2020		1760

Name(s) of Evaluator(s)	Steam Name and Information
BCLS	ST3T5

Restoration: Includes Priority 1, 2, and 3 restoration activities. Does not include buffer width.

List Reaches that will receive full Restoration:

Total length of Full Restoration: 1760 — Credits = Stream Length X 1.0

Restoration	Credit per foot	Project Credits
	1	1760

Enhancement With Instream Structures: Addressing Streambank Stability, Grade Control (Vanes, Weirs, Step-Pools), Constructed Riffles

Discuss Length Affected by Instream Structures (justify length):

Length Affected by Instream Structures — Credits = Stream Length X 0.3

Credit per foot	Project Credits
0.3	0

Enhancement: Addressing Streambank Stability, Entrenchment Ratios, Access to Floodplain

Mitigation Categories

	Mechanical Bank Work			Biological Bank Work		
	Credit Per Length	Pick One Per Length		May Be Cumulative Per Length		
Activities	Habitat Structures	Create Bankfull Bench	Lay Back Banks	Bio-Remediation Techniques	Stream Bank Plantings	
Credit per foot per bank	0.1	0.15	0.1	0.1	0.09	
Right Bank Length						0
Right Bank Credit>	0.1	0.15	0.1	0.1	0.09	
	Habitat Struct	bench	lay back bank	bio-remediatio	plantings	
Left Bank Length						0
Left Bank Credit >	0.1	0.15	0.1	0.1	0.09	

CREDITS: Rt Bank > 0.00; Lt Bank > 0.00; Credit = SUM of banks: 0

Σ(Length X Credit) for all areas (banks done separately)

Riparian Areas: Assess the proposed 100 foot buffer on both banks based on the activity proposed. Enter the percentage of area and the credit below. (Widths of buffer above 100' will be determined below)

Activities	Buffer Re-establishment (removal of invasives)	Buffer Planting - Heavy	Buffer Planting - Light	Preservation *High Quality, Restoration, Enhancement*	Preservation *Low Quality*	Buffer area not within preservation width
Credit for 0'-100'	0.4	0.38	0.29	0.14	0.07	0
Credit for beyond 100'	0.2	0.19	0.15	0.07		0

Calculation of "Goal" riparian buffer for each side (SAR length times 100') >>>> 176,000 square feet

WITHIN FIRST 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #	1	2					
	Sq. Footage	3221	140600					
	% Area	2%	80%	0%	0%	0%	0%	82%
	Credit>	0.38	0.14	0.4				
		Heavy Plant	Pres/Replant	Invasives				
Left Bank	Area #							
	Sq. Footage	41111	125839					
	% Area	23%	71%	0%	0%	0%	0%	95%
	Credit>	0.38	0.14	0.4				

CREDITS: Rt Bank > 0.12; Lt Bank > 0.19; Credit = 0.16: 282

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Outside First 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #							
	Sq. Footage							
	% Area	0%	0%	0%	0%	0%	0%	0%
	Credit>	0.19	0.07					
		Heavy Plant	Pres/Replant	Invasives				
Left Bank	Area #							
	Sq. Footage							
	% Area	0%	0%	0	0	0	0	0%
	Credit >	0.19	0.07	0.2				

CREDITS: Rt Bank > 0.00; Lt Bank > 0.00; Credit = 0.00: 0

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Adjustment Factors: These factors are applied as a multiplier to length of a reach for which they apply

Adjustment Factor Categories

Activity	Rare, Threatened, or Endangered Species or Communities	Livestock Exclusion	Watershed Preservation
Credit	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3

Record AF length /credit beneath the AF activity. Provide a narrative explanation of the applicable site conditions that warrant an adjustment and justify the AF credit chosen.

Credits > 0

Σ Length X Credit) for all areas

Total Compensation Credit Provided by Project	2042

Compensation Crediting Form (Form 3)

Unified Stream Methodology for use in Virginia

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	Reach #	Reach Length
102528	Green Ridge Landfill - Martin Property				4/20/2020		365

Name(s) of Evaluator(s)	Steam Name and Information
BCLS	ST3T6

Restoration: Includes Priority 1, 2, and 3 restoration activities. Does not include buffer width.

List Reaches that will receive full Restoration:

Total length of Full Restoration: 0 — Credits = Stream Length X 1.0

Preservation	Credit per foot	Project Credits
	1	0

Enhancement With Instream Structures: Addressing Streambank Stability, Grade Control (Vanes, Weirs, Step-Pools), Constructed Riffles

Discuss Length Affected by Instream Structures (justify length):

Length Affected by Instream Structures — Credits = Stream Length X 0.3

Credit per foot	Project Credits
0.3	0

Enhancement: Addressing Streambank Stability, Entrenchment Ratios, Access to Floodplain

Mitigation Categories

	Mechanical Bank Work			Biological Bank Work			
	Credit Per Length	Pick One Per Length			May Be Cumulative Per Length		
Activities	Habitat Structures	Create Bankfull Bench	Lay Back Banks	Bio-Remediation Techniques	Stream Bank Plantings		
Credit per foot per bank	0.1	0.15	0.1	0.1	0.09		

		Habitat Struct	bench	lay back bank	bio-remediatio	plantings		
Right Bank	Length							0
	Credit>	0.1	0.15	0.1	0.1	0.09		
Left Bank	Length							0
	Credit >	0.1	0.15	0.1	0.1	0.09		

CREDITS: Rt Bank > 0.00; Lt Bank > 0.00; Credit (SUM of banks) = 0

Σ(Length X Credit) for all areas (banks done separately)

Riparian Areas: Assess the proposed 100 foot buffer on both banks based on the activity proposed. Enter the percentage of area and the credit below. (Widths of buffer above 100' will be determined below)

Activities	Buffer Re-establishment (removal of invasives)	Buffer Planting - Heavy	Buffer Planting - Light	Preservation *High Quality, Restoration, Enhancement*	Preservation *Low Quality*	Buffer area not within preservation width
Credit for 0'-100'	0.4	0.38	0.29	0.14	0.07	0
Credit for beyond 100'	0.2	0.19	0.15	0.07		0

Calculation of "Goal" riparian buffer for each side (SAR length times 100') >>>> 36,500 square feet

WITHIN FIRST 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #	1	2					
	Sq. Footage		18181					
	% Area	0%	50%	0%	0%	0%	0%	50%
	Credit>	0.38	0.14	0.4				
		Heavy Plant	Pres/Replant	Invasives				
Left Bank	Area #							
	Sq. Footage	0	39435					
	% Area	0%	108%	0%	0%	0%	0%	108%
	Credit>	0.38	0.14	0.4				

CREDITS: Rt Bank > 0.07; Lt Bank > 0.15; Credit = 0.11; 40

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Outside First 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #							
	Sq. Footage							
	% Area	0%	0%	0%	0%	0%	0%	0%
	Credit>	0.19	0.07					
		Heavy Plant	Pres/Replant	Invasives				
Left Bank	Area #							
	Sq. Footage							
	% Area	0%	0%	0	0	0	0	0%
	Credit >	0.19	0.07	0.2				

CREDITS: Rt Bank > 0.00; Lt Bank > 0.00; Credit = 0.00; 0

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Adjustment Factors: These factors are applied as a multiplier to length of a reach for which they apply

Adjustment Factor Categories

Activity	Rare, Threatened, or Endangered Species or Communities	Livestock Exclusion	Watershed Preservation
Credit	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3

Record AF length /credit beneath the AF activity. Provide a narrative explanation of the applicable site conditions that warrant an adjustment and justify the AF credit chosen.

Credits > 0

Σ Length X Credit) for all areas

Total Compensation Credit Provided by Project	40

Compensation Crediting Form (Form 3)

Unified Stream Methodology for use in Virginia

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	Reach #	Reach Length
102528	Green Ridge Landfill - Martin Property				4/20/2020		838

Name(s) of Evaluator(s)	Steam Name and Information
BCLS	ST4R1

Restoration: Includes Priority 1, 2, and 3 restoration activities. Does not include buffer width.

List Reaches that will receive full Restoration:

Total length of Full Restoration: 0 — Credits = Stream Length X 1.0

Enhancement	Credit per foot	Project Credits
	1	0

Enhancement With Instream Structures: Addressing Streambank Stability, Grade Control (Vanes, Weirs, Step-Pools), Constructed Riffles

Discuss Length Affected by Instream Structures (justify length):

Length Affected by Instream Structures: 300 — Credits = Stream Length X 0.3

Credit per foot	Project Credits
0.3	90

Enhancement: Addressing Streambank Stability, Entrenchment Ratios, Access to Floodplain

Mitigation Categories

	Mechanical Bank Work				Biological Bank Work		
	Credit Per Length	Pick One Per Length			May Be Cumulative Per Length		
Activities	Habitat Structures	Create Bankfull Bench	Lay Back Banks		Bio-Remediation Techniques	Stream Bank Plantings	
Credit per foot per bank	0.1	0.15	0.1		0.1	0.09	
Right Bank Length	300		200		300		30
Right Bank Credit>	0.1	0.15	0.1	0.1	0.09		
	Habitat Struct	bench	lay back bank	bio-remediatio	plantings		
Left Bank Length	300		200		300		30
Left Bank Credit >	0.1	0.15	0.1	0.1	0.09		

CREDITS

Rt Bank > 77.00 Credit

Lt Bank > 77.00 SUM of banks: 154

Σ(Length X Credit) for all areas (banks done separately)

Riparian Areas: Assess the proposed 100 foot buffer on both banks based on the activity proposed. Enter the percentage of area and the credit below. (Widths of buffer above 100' will be determined below)

Activities	Buffer Re-establishment (removal of invasives)	Buffer Planting - Heavy	Buffer Planting - Light	Preservation *High Quality, Restoration, Enhancement*	Preservation *Low Quality*	Buffer area not within preservation width
Credit for 0'-100'	0.4	0.38	0.29	0.14	0.07	0
Credit for beyond 100'	0.2	0.19	0.15	0.07		0

Calculation of "Goal" riparian buffer for each side (SAR length times 100') >>>> 83,800 square feet

WITHIN FIRST 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03

Two vegetative communities maintained — Subtract 0.06

Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #	1	2					
	Sq. Footage		42838	42838				
	% Area	0%	51%	51%	0%	0%	0%	102%
	Credit>	0.38	0.14	0.07				
		Heavy Plant	Pres/Replant	low quality				
Left Bank	Area #							
	Sq. Footage	0	39430	39430				
	% Area	0%	47%	47%	0%	0%	0%	94%
	Credit>	0.38	0.14	0.07				

19715.07444

CREDITS

Rt Bank > 0.11 Credit

Lt Bank > 0.10 0.11: 92

Σ(% Area X Credit) for all areas (banks done separately)

AVE of credit for banks X length of project

Outside First 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03

Two vegetative communities maintained — Subtract 0.06

Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #							
	Sq. Footage							
	% Area	0%	0%	0%	0%	0%	0%	0%
	Credit>	0.19	0.07					
		Heavy Plant	Pres/Replant	Invasives				
Left Bank	Area #							
	Sq. Footage							
	% Area	0%	0%	0	0	0	0	0%
	Credit >	0.19	0.07	0.2				

CREDITS

Rt Bank > 0.00 Credit

Lt Bank > 0.00 0.00: 0

Σ(% Area X Credit) for all areas (banks done separately)

AVE of credit for banks X length of project

Adjustment Factors: These factors are applied as a multiplier to length of a reach for which they apply

Adjustment Factor Categories

Activity	Rare, Threatened, or Endangered Species or Communities	Livestock Exclusion	Watershed Preservation
Credit	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3

Record AF length /credit beneath the AF activity. Provide a narrative explanation of the applicable site conditions that warrant an adjustment and justify the AF credit chosen.

Credits > 0

Σ Length X Credit) for all areas

Total Compensation Credit Provided by Project: 336

Compensation Crediting Form (Form 3)

Unified Stream Methodology for use in Virginia

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	Reach #	Reach Length
102528	Green Ridge Landfill - Martin Property				4/20/2020		633

Name(s) of Evaluator(s)	Steam Name and Information
BCLS	ST4R2

Restoration: Includes Priority 1, 2, and 3 restoration activities. Does not include buffer width.

List Reaches that will receive full Restoration:

Total length of Full Restoration: 0 — Credit per foot: 1 — Project Credits: 0

Credits = Stream Length X 1.0

Enhancement With Instream Structures: Addressing Streambank Stability, Grade Control (Vanes, Weirs, Step-Pools), Constructed Riffles

Discuss Length Affected by Instream Structures (justify length):

Length Affected by Instream Structures: 100 — Credit per foot: 0.3 — Project Credits: 30

Credits = Stream Length X 0.3

Enhancement: Addressing Streambank Stability, Entrenchment Ratios, Access to Floodplain

Mitigation Categories

	Mechanical Bank Work				Biological Bank Work		
	Credit Per Length	Pick One Per Length			May Be Cumulative Per Length		
Activities	Habitat Structures	Create Bankfull Bench	Lay Back Banks		Bio-Remediation Techniques	Stream Bank Plantings	
Credit per foot per bank	0.1	0.15	0.1		0.1	0.09	
Right Bank Length	200		150		633		20
Right Bank Credit>	0.1	0.15	0.1	0.1	0.09		
	Habitat Struct	bench	lay back bank	bio-remediatio	plantings		
Left Bank Length	200		150		633		20
Left Bank Credit >	0.1	0.15	0.1	0.1	0.09		

CREDITS: Rt Bank > 91.97 — Lt Bank > 91.97 — Credit (SUM of banks): 184

Σ(Length X Credit) for all areas (banks done separately)

Riparian Areas: Assess the proposed 100 foot buffer on both banks based on the activity proposed. Enter the percentage of area and the credit below. (Widths of buffer above 100' will be determined below)

Activities	Buffer Re-establishment (removal of invasives)	Buffer Planting - Heavy	Buffer Planting - Light	Preservation *High Quality, Restoration, Enhancement*	Preservation *Low Quality*	Buffer area not within preservation width
Credit for 0'-100'	0.4	0.38	0.29	0.14	0.07	0
Credit for beyond 100'	0.2	0.19	0.15	0.07		0

Calculation of "Goal" riparian buffer for each side (SAR length times 100') >>>> 63,300 square feet

WITHIN FIRST 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #	1	2					
	Sq. Footage		57633					
	% Area	0%	91%	0%	0%	0%	0%	91%
	Credit>	0.38	0.14	0.4				
		Heavy Plant	Pres/Replant	Invasives				
Left Bank	Area #							
	Sq. Footage	0	59355					
	% Area	0%	94%	0%	0%	0%	0%	94%
	Credit>	0.38	0.14	0.4				

CREDITS: Rt Bank > 0.13 — Lt Bank > 0.13 — Credit: 0.13 — 82

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Outside First 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #							
	Sq. Footage							
	% Area	0%	0%	0%	0%	0%	0%	0%
	Credit>	0.19	0.07					
		Heavy Plant	Pres/Replant	Invasives				
Left Bank	Area #							
	Sq. Footage							
	% Area	0%	0%	0	0	0	0	0%
	Credit >	0.19	0.07	0.2				

CREDITS: Rt Bank > 0.00 — Lt Bank > 0.00 — Credit: 0.00 — 0

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Adjustment Factors: These factors are applied as a multiplier to length of a reach for which they apply

Adjustment Factor Categories

Activity	Rare, Threatened, or Endangered Species or Communities	Livestock Exclusion	Watershed Preservation
Credit	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3

Record AF length /credit beneath the AF activity. Provide a narrative explanation of the applicable site conditions that warrant an adjustment and justify the AF credit chosen.

Credits > 0

ΣLength X Credit) for all areas

Total Compensation Credit Provided by Project: 296

Compensation Crediting Form (Form 3)

Unified Stream Methodology for use in Virginia

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	Reach #	Reach Length
102528	Green Ridge Landfill - Martin Property				4/20/2020		1096

Name(s) of Evaluator(s)	Steam Name and Information
BCLS	ST4R3

Restoration: Includes Priority 1, 2, and 3 restoration activities. Does not include buffer width.

List Reaches that will receive full Restoration:

Total length of Full Restoration: 0 — Credits = Stream Length X 1.0

Preservation	Credit per foot	Project Credits
	1	0

Enhancement With Instream Structures: Addressing Streambank Stability, Grade Control (Vanes, Weirs, Step-Pools), Constructed Riffles

Discuss Length Affected by Instream Structures (justify length):

Length Affected by Instream Structures: 0 — Credits = Stream Length X 0.3

Credit per foot	Project Credits
0.3	0

Enhancement: Addressing Streambank Stability, Entrenchment Ratios, Access to Floodplain

Mitigation Categories

		Mechanical Bank Work			Biological Bank Work			
		Credit Per Length	Pick One Per Length			May Be Cumulative Per Length		
Activities		Habitat Structures	Create Bankfull Bench	Lay Back Banks	Bio-Remediation Techniques	Stream Bank Plantings		
Credit per foot per bank		0.1	0.15	0.1	0.1	0.09		
Right Bank	Length						0	
	Credit>	0.1	0.15	0.1	0.1	0.09		
		Habitat Struct	bench	lay back bank	bio-remediatio	plantings		
Left Bank	Length						0	
	Credit >	0.1	0.15	0.1	0.1	0.09		

CREDITS: Rt Bank > 0.00; Lt Bank > 0.00; Credit (SUM of banks) = 0

Σ(Length X Credit) for all areas (banks done separately)

Riparian Areas: Assess the proposed 100 foot buffer on both banks based on the activity proposed. Enter the percentage of area and the credit below. (Widths of buffer above 100' will be determined below)

Activities	Buffer Re-establishment (removal of invasives)	Buffer Planting - Heavy	Buffer Planting - Light	Preservation *High Quality, Restoration, Enhancement*	Preservation *Low Quality*	Buffer area not within preservation width
Credit for 0'-100'	0.4	0.38	0.29	0.14	0.07	0
Credit for beyond 100'	0.2	0.19	0.15	0.07		0

Calculation of "Goal" riparian buffer for each side (SAR length times 100') >>>> 109,600 square feet

WITHIN FIRST 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #	1	2					
	Sq. Footage		89434					
	% Area	0%	82%	0%	0%	0%	0%	82%
	Credit>	0.38	0.14	0.4				
		Heavy Plant	Pres/Replant	Invasives				
Left Bank	Area #							
	Sq. Footage	0	92930					
	% Area	0%	85%	0%	0%	0%	0%	85%
	Credit>	0.38	0.14	0.4				

CREDITS: Rt Bank > 0.11; Lt Bank > 0.12; Credit = 0.12; Project Credits = 132

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Outside First 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #							
	Sq. Footage							
	% Area	0%	0%	0%	0%	0%	0%	0%
	Credit>	0.19	0.07					
		Heavy Plant	Pres/Replant	Invasives				
Left Bank	Area #							
	Sq. Footage							
	% Area	0%	0%	0	0	0	0	0%
	Credit >	0.19	0.07	0.2				

CREDITS: Rt Bank > 0.00; Lt Bank > 0.00; Credit = 0.00; Project Credits = 0

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Adjustment Factors: These factors are applied as a multiplier to length of a reach for which they apply

Adjustment Factor Categories

Activity	Rare, Threatened, or Endangered Species or Communities	Livestock Exclusion	Watershed Preservation
Credit	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3

Record AF length /credit beneath the AF activity. Provide a narrative explanation of the applicable site conditions that warrant an adjustment and justify the AF credit chosen.

Credits > 0

ΣLength X Credit) for all areas

Total Compensation Credit Provided by Project	132

Compensation Crediting Form (Form 3)

Unified Stream Methodology for use in Virginia

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	Reach #	Reach Length
102528	Green Ridge Landfill - Martin Property				4/20/2020		5114

Name(s) of Evaluator(s)	Steam Name and Information
BCLS	Muddy Creek

Restoration: Includes Priority 1, 2, and 3 restoration activities. Does not include buffer width.

List Reaches that will receive full Restoration:

Total length of Full Restoration: 0 — Credit per foot: 1 — Preservation — Project Credits: 0

Credits = Stream Length X 1.0

Enhancement With Instream Structures: Addressing Streambank Stability, Grade Control (Vanes, Weirs, Step-Pools), Constructed Riffles

Discuss Length Affected by Instream Structures (justify length):

Length Affected by Instream Structures: 0 — Credit per foot: 0.3 — Credits: 0

Credits = Stream Length X 0.3

Enhancement: Addressing Streambank Stability, Entrenchment Ratios, Access to Floodplain

Mitigation Categories

		Mechanical Bank Work			Biological Bank Work			
		Credit Per Length	Pick One Per Length			May Be Cumulative Per Length		
Activities		Habitat Structures	Create Bankfull Bench	Lay Back Banks	Bio-Remediation Techniques	Stream Bank Plantings		
Credit per foot per bank		0.1	0.15	0.1	0.1	0.09		
Right Bank	Length						0	
	Credit>	0.1	0.15	0.1	0.1	0.09		
		Habitat Struct	bench	lay back bank	bio-remediatio	plantings		
Left Bank	Length						0	
	Credit >	0.1	0.15	0.1	0.1	0.09		

CREDITS: Rt Bank > 0.00 — Lt Bank > 0.00 — Credit: SUM of banks: 0

Σ(Length X Credit) for all areas (banks done separately)

Riparian Areas: Assess the proposed 100 foot buffer on both banks based on the activity proposed. Enter the percentage of area and the credit below. (Widths of buffer above 100' will be determined below)

Activities	Buffer Re-establishment (removal of invasives)	Buffer Planting - Heavy	Buffer Planting - Light	Preservation *High Quality, Restoration, Enhancement*	Preservation *Low Quality*	Buffer area not within preservation width
Credit for 0'-100'	0.4	0.38	0.29	0.14	0.07	0
Credit for beyond 100'	0.2	0.19	0.15	0.07		0

Calculation of "Goal" riparian buffer for each side (SAR length times 100') >>>> 511,399 square feet

WITHIN FIRST 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #	1	2					
	Sq. Footage		493843					
	% Area	0%	97%	0%	0%	0%	0%	97%
	Credit>	0.38	0.14	0.4				
		Heavy Plant	Pres/Replant	Invasives				
Left Bank	Area #							
	Sq. Footage	0	482025					
	% Area	0%	94%	0%	0%	0%	0%	94%
	Credit>	0.38	0.14	0.4				

CREDITS: Rt Bank > 0.14 — Credit: 0.14 — Lt Bank > 0.13 — Credit: 716

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Outside First 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #							
	Sq. Footage							
	% Area	0%	0%	0%	0%	0%	0%	0%
	Credit>	0.19	0.07					
		Heavy Plant	Pres/Replant	Invasives				
Left Bank	Area #							
	Sq. Footage							
	% Area	0%	0%	0	0	0	0	0%
	Credit >	0.19	0.07	0.2				

CREDITS: Rt Bank > 0.00 — Credit — Lt Bank > 0.00 — 0.00 — 0

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Adjustment Factors: These factors are applied as a multiplier to length of a reach for which they apply

Adjustment Factor Categories

Activity	Rare, Threatened, or Endangered Species or Communities	Livestock Exclusion	Watershed Preservation
Credit	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3

Record AF length /credit beneath the AF activity. Provide a narrative explanation of the applicable site conditions that warrant an adjustment and justify the AF credit chosen.

Credits > 0

ΣLength X Credit) for all areas

Total Compensation Credit Provided by Project: 716

Compensation Crediting Form (Form 3)

Unified Stream Methodology for use in Virginia

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	Reach #	Reach Length
102528	Green Ridge Landfill - Martin Property				4/20/2020		28947

Name(s) of Evaluator(s)	Steam Name and Information
BCLS	Landfill

Preservation — Project Credits

Restoration: Includes Priority 1, 2, and 3 restoration activities. Does not include buffer width.

List Reaches that will receive full Restoration:

Total length of Full Restoration: 0 — Credit per foot: 1 — Credits: 0

Credits = Stream Length X 1.0

Enhancement With Instream Structures: Addressing Streambank Stability, Grade Control (Vanes, Weirs, Step-Pools), Constructed Riffles

Discuss Length Affected by Instream Structures (justify length):

Length Affected by Instream Structures: 0 — Credit per foot: 0.3 — Credits: 0

Credits = Stream Length X 0.3

Enhancement: Addressing Streambank Stability, Entrenchment Ratios, Access to Floodplain

Mitigation Categories

		Mechanical Bank Work			Biological Bank Work			
		Credit Per Length	Pick One Per Length			May Be Cumulative Per Length		
Activities		Habitat Structures	Create Bankfull Bench	Lay Back Banks	Bio-Remediation Techniques	Stream Bank Plantings		
Credit per foot per bank		0.1	0.15	0.1	0.1	0.09		
Right Bank	Length						0	
	Credit>	0.1	0.15	0.1	0.1	0.09		
		Habitat Struct	bench	lay back bank	bio-remediatio	plantings		
Left Bank	Length						0	
	Credit >	0.1	0.15	0.1	0.1	0.09		

CREDITS: Rt Bank > 0.00 — Lt Bank > 0.00 — Credit: SUM of banks: 0

Σ(Length X Credit) for all areas (banks done separately)

Riparian Areas: Assess the proposed 100 foot buffer on both banks based on the activity proposed. Enter the percentage of area and the credit below. (Widths of buffer above 100' will be determined below)

Activities	Buffer Re-establishment (removal of invasives)	Buffer Planting - Heavy	Buffer Planting - Light	Preservation *High Quality, Restoration, Enhancement*	Preservation *Low Quality*	Buffer area not within preservation width
Credit for 0'-100'	0.4	0.38	0.29	0.14	0.07	0
Credit for beyond 100'	0.2	0.19	0.15	0.07		0

Calculation of "Goal" riparian buffer for each side (SAR length times 100') >>>> 2,894,700 square feet

WITHIN FIRST 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #	1	2					
	Sq. Footage		2768020					
	% Area	0%	96%	0%	0%	0%	0%	96%
	Credit>	0.38	0.14	0.4				
		Heavy Plant	Pres/Replant	Invasives				
Left Bank	Area #							
	Sq. Footage	0	2768020					
	% Area	0%	96%	0%	0%	0%	0%	96%
	Credit>	0.38	0.14	0.4				

CREDITS: Rt Bank > 0.13 — Lt Bank > 0.13 — Credit: 0.13: 3763

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Outside First 100' - Mitigation Categories

One vegetative community maintained — Subtract 0.03
Two vegetative communities maintained — Subtract 0.06
Ensure the sums of % Riparian Blocks equal 100

Right Bank	Area #							
	Sq. Footage							
	% Area	0%	0%	0%	0%	0%	0%	0%
	Credit>	0.19	0.07					
		Heavy Plant	Pres/Replant	Invasives				
Left Bank	Area #							
	Sq. Footage							
	% Area	0%	0%	0	0	0	0	0%
	Credit >	0.19	0.07	0.2				

CREDITS: Rt Bank > 0.00 — Lt Bank > 0.00 — Credit: 0.00: 0

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Adjustment Factors: These factors are applied as a multiplier to length of a reach for which they apply

Adjustment Factor Categories

Activity	Rare, Threatened, or Endangered Species or Communities	Livestock Exclusion	Watershed Preservation
Credit	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3

Record AF length /credit beneath the AF activity. Provide a narrative explanation of the applicable site conditions that warrant an adjustment and justify the AF credit chosen.

Credits > 0

ΣLength X Credit) for all areas

Total Compensation Credit Provided by Project: 3763

Compensation Summary Form (Form 4)

Unified Stream Methodology
for use in Virginia

Project #	Applicant		Date
102528	RES		4/20/2020
Evaluators		HUC	Locality
BCLS			Middle James

Stream Name	Reach ID	Comp. Length (L_c)	Total Compensation Credit
ST1R1	ST1R1	1120	685
ST1R2	ST1R2	2136	1270
ST1T1	ST1T1	142	67
ST1T2	ST1T2	630	283
ST1T3	ST1T3	1143	503
ST2R1	ST2R1	482	82
ST2R2	ST2R2	1664	1897
ST2T1	ST2T1	878	88
ST3R1	ST3R1	1319	657
ST3R2	ST3R2	1159	1310
ST3R3	ST3R3	1614	854
ST3T1	ST3T1	218	94
ST3T2R1	ST3T2R1	574	299
ST3T2R2	ST3T2R2	142	21
ST3T2R3	ST3T2R3	441	516
ST3T3	ST3T3	240	108
ST3T4	ST3T4	255	113
ST3T5	ST3T5	1760	2042
ST3T6	ST3T6	365	40
ST4R1	ST4R1	838	336
ST4R2	ST4R2	633	296
ST4R3	ST4R3	1096	132
Muddy Creek	Muddy Creek	5114	716
Landfill Pres	Landfill	28947	3763
	Totals	**52,911**	**16,172**

Note: Round all feet & CC's to the nearest whole number.

Attachment D

Mitigation Credit Availability Research

Notice: The credit totals shown do **NOT reflect any credit reservations or pending transactions**.
It is the responsibility of potential purchasers to contact the Sponsor and obtain written confirmation of credit availability.

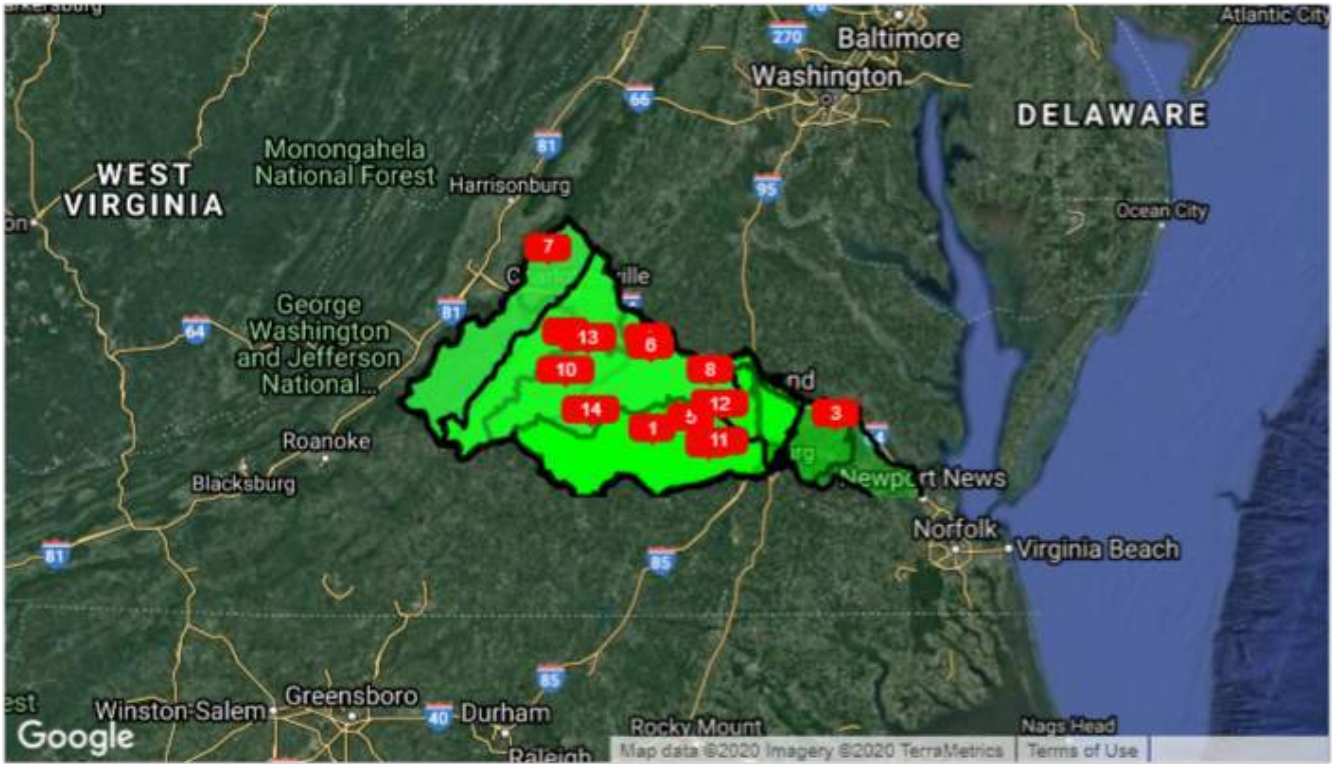
Latitude: 37.561702, **Longitude** -78.121652

State:	Virginia
County:	Cumberland
8-digit Hydrologic Unit Code:	02080205
USFWS Field Office:	Virginia
USACE District:	Norfolk
NOAA Region:	Northeast

Mitigation/Conservation Banks & ILF Sites in Primary Service Area	14
Mitigation/Conservation Banks & ILF Sites in Secondary Service Area	0
Mitigation/Conservation Banks & ILF Sites in Tertiary Service Area	0
ILF Program Advance Credits	1

Search Criteria:
excluding single client banks and ILF sites
including banks, ILF sites and ILF programs with zero available credits
including bank and ILF site service areas of rank Primary, Secondary, Tertiary

Mitigation/Conservation Banks & ILF Sites in Primary Service Area



Bank Name: 1 - Amelia Environmental Bank

Bank Type:	Private Commercial
Total Acres:	1102
Distance to impact:	15 Miles
Permit No:	NAO-2008-3144
Bank States:	Virginia
Comments:	Wetland and stream bank
Bank Sponsor:	**Fallings Springs LLC dba Amelia Environmental LLC** 6243 River Road, Suite 7 Richmond, VA 23229

Bank POC: **Jason Bohdan**
Falling Springs LLC
6243 River Road, Suite 7
Richmond, VA 23229
Email: jbohdan@fallingspringsllc.com
Phone: (804) 330-8095
Cell Phone: (804) 839-2938
Fax: (804) 330-8096

Sandra Bolling
Office Manager
6243 River Road
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Richmond, VA 23229
Email: sbolling@fallingspringsllc.com
Phone: (804) 330-8091

Evan B Ocheltree
Manager
Falling Springs
6243 River Road Ste.7
Richmond, VA 23229
Email: eocheltree@fallingspringsllc.com
Phone: (804) 823-8246

Bank Manager: **Julie Hamilton**
Environmental Scientist
9100 Arboretum Parkway, Suite 235
Richmond, VA 23236
Email: julie.s.hamilton@usace.army.mil
Phone: (804) 323-3783

Credit Type	Credit Classifications	Assessment Method	Available Credits	Jurisdiction
Stream	Riverine	Unified Stream Methodology	0.00	Federal
Wetland	Wetlands	Ratio	0.00	Federal

Notes:

Bank Name: 2 - Appomattox

Bank Type: Private Commercial
Total Acres: 401.43
Distance to impact: 28 Miles
Permit No: NAO-2007-2611
Bank States: Virginia
Comments: Wetland and stream mitigation bank. Credits are assessed using the Mitigation Ratio Method (wetlands) and Unified Stream Methodology (USM)

Bank Sponsor: **Fallings Springs LLC dba Appomattox Mitigation Holdings LLC**
6243 River Road, Suite 7
Richmond, VA 23229

Bank POC: **Jason Bohdan**
Falling Springs LLC
6243 River Road, Suite 7
Richmond, VA 23229
Email: jbohdan@fallingspringsllc.com
Phone: (804) 330-8095
Cell Phone: (804) 839-2938
Fax: (804) 330-8096

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Phone: (804) 330-8091

Evan B Ocheltree
Manager
Falling Springs
6243 River Road Ste.7
Richmond, VA 23229
Email: eocheltree@fallingspringsllc.com
Phone: (804) 823-8246

Bank Manager: **Julie Hamilton**
Environmental Scientist
9100 Arboretum Parkway, Suite 235
Richmond, VA 23236
Email: julie.s.hamilton@usace.army.mil
Phone: (804) 323-3783

Credit Type	Credit Classifications	Assessment Method	Available Credits	Jurisdiction
Wetland	POW - Palustrine Open Water	Ratio	1.44	Federal
Stream	Riverine	STREAM	0.00	Federal
Wetland	Wetlands	Ratio	0.00	Federal

Notes:

Bank Name: 3 - Bailey

Bank Type: Private Commercial
Total Acres: 48
Distance to impact: 60 Miles
Permit No: NAO-2008-1387
Bank States: Virginia
Comments: Wetland and stream mitigation bank. Credits would be assessed using mitigation ratio method (wetlands) and Unified Stream Methodology (USM)

Bank Sponsor: **Falling Springs LLC dba Bailey Mitigation LLC**
6243 River Road, Suite 7
Richmond, VA 23229

Bank POC: **Jason Bohdan**
Falling Springs LLC
6243 River Road, Suite 7
Richmond, VA 23229
Email: jbohdan@fallingspringsllc.com
Phone: (804) 330-8095
Cell Phone: (804) 839-2938
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Evan B Ocheltree
Manager
Falling Springs
6243 River Road Ste.7
Richmond, VA 23229
Email: eocheltree@fallingspringsllc.com
Phone: (804) 823-8246

Bank Manager: **Mr. Dan Bacon**
Regulatory Specialist
803 Front St.
Norfolk, VA 23510
Email: Danny.R.Bacon@usace.army.mil
Phone: (757) 201-7060

Herman Hudson
803 Front Street
Norfolk, VA 23510
Email: herman.w.hudson@usace.army.mil
Phone: (757) 201-7808

Credit Type	Credit Classifications	Assessment Method	Available Credits	Jurisdiction
Stream	Riverine	Unified Stream Methodology	0.00	Federal
Wetland	Wetlands	Ratio	0.00	Federal

Notes:

Bank Name: 4 - Byrd Creek

Bank Type: Private Commercial
Total Acres: 163
Distance to impact: 14 Miles
Permit No: NAO-2000-1533
Bank States: Virginia
Comments: Wetland mitigation bank. Credits are assessed using the Mitigation Ratio Method.
Bank Sponsor: **Byrd Creek, LLC**
1851 Bennington Rd
Rockville, VA 23146

Bank POC: **Kelby Morgan**
Manager
1851 Bennington Road
Rockville, VA 23146
Email: kmorgan@liesfeld.com
Phone: (804) 749-3276
Fax: (804) 749-4566

Bank Manager: **David Knepper**
Environmental Scientist
803 Front Street
Norfolk, VA 23510
Email: David.A.Knepper@usace.army.mil
Phone: (757) 201-7488
Fax: (757) 201-7678

Credit Type	Credit Classifications	Assessment Method	Available Credits	Jurisdiction
Stream	Riverine	Unified Stream Methodology	121.00	Federal
Wetland	Wetlands	Ratio	0.06	Federal

Notes:

Bank Name: 5 - Coverly

Bank Type: Private Commercial
Total Acres: 175
Distance to impact: 18 Miles
Permit No: NAO-2001-0577
Bank States: Virginia
Comments: Wetland mitigation bank utilizing Mitigation Ratio (old permit number 01-F0072)
Bank Sponsor: **Coverly Wetlands Mitigation LLC**
c/o Aythya Environmental LLC
202 Henry Clay Rd
Ashland, VA 23005
Bank POC: **Matt Overton**
Aythya Environmental, LLC
202 Henry Clay Road
Ashland, VA 23005
Email: p.matt.overton@gmail.com
Phone: (804) 339-6288
Fax: (804) 271-5373
Bank Manager: **Julie Hamilton**
Environmental Scientist
9100 Arboretum Parkway, Suite 235
Richmond, VA 23236
Email: julie.s.hamilton@usace.army.mil
Phone: (804) 323-3783

Credit Type	Credit Classifications	Assessment Method	Available Credits	Jurisdiction
Wetland	Wetlands	Ratio	0.00	Federal

Notes:

Bank Name: 6 - Elk Island

Bank Type: Private Commercial
Total Acres: 103
Distance to impact: 11 Miles
Permit No: NAO-2000-1533
Bank States: Virginia
Comments: Wetland and stream mitigation bank. Credits are assessed by compensatory ratio (wetland credits) and USM (stream credits)
Bank Sponsor: **Byrd Creek, LLC**
1851 Bennington Rd
Rockville, VA 23146
Bank POC: **Kelby Morgan**
Manager
1851 Bennington Road
Rockville, VA 23146
Email: kmorgan@liesfeld.com
Phone: (804) 749-3276
Fax: (804) 749-4566

Bank Manager: **Todd Miller**
Environmental Scientist
9100 Arboretum Pkwy, Ste 235
Richmond, VA 23236
Email: todd.m.miller@usace.army.mil
Phone: (804) 323-3782

Credit Type	Credit Classifications	Assessment Method	Available Credits	Jurisdiction
Stream	Riverine	Unified Stream Methodology	0.00	Federal
Wetland	Wetlands	Ratio	0.70	Federal

Notes:

Bank Name: 7 - Innisfree Stream Mitigation Bank

Bank Type: Private Commercial
Total Acres: 463
Distance to impact: 53 Miles
Permit No: NAO-2010-01856
Bank States: Virginia
Comments: Wetland and stream mitigation bank
Bank Sponsor: **Innisfree Stream Mitigation Bank LLC**
, VA

Bank POC: **Peter Traverse**
Innisfree Stream Mitigation Bank, LLC
5505 Walnut Level Rd
Crozet, VA 22932
Email: streams@innisfreevillage.org
Phone: (434) 305-8963

Bank Manager: **Vincent Pero**
CENAO-REG
920 Gardens Blvd. Suite 103-B
Charlottesville, VA 22901
Email: vincent.d.pero@usace.army.mil
Phone: (434) 973-0568

Credit Type	Credit Classifications	Assessment Method	Available Credits	Jurisdiction
Stream	Riverine	Unified Stream Methodology	6,833.90	Federal

Notes:

Bank Name: 8 - James River

Bank Type: Private Commercial
Total Acres: 430
Distance to impact: 20 Miles
Permit No: NAO-2011-0513
Bank States: Virginia
Comments: Wetland and stream mitigation bank. Wetland credits are assessed using the Mitigation Ratio method.

Bank Sponsor:
Falling Springs, LLC dba James River Mitigation, LLC
6243 River Road, Suite 7
Richmond, VA 23229

Bank POC:
Jason Bohdan
Falling Springs LLC
6243 River Road, Suite 7
Richmond, VA 23229
Email: jbohdan@fallingspringsllc.com
Phone: (804) 330-8095
Cell Phone: (804) 839-2938
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Sandra Bolling
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Phone: (804) 330-8091

Evan B Ocheltree
Manager
Falling Springs
6243 River Road Ste.7
Richmond, VA 23229
Email: eocheltree@fallingspringsllc.com
Phone: (804) 823-8246

Bank Manager:
Melissa Nash
Environmental Scientist
803 Front Street
Norfolk, VA 23510
Email: melissa.a.nash@usace.army.mil
Phone: (757) 201-7489

Credit Type	Credit Classifications	Assessment Method	Available Credits	Jurisdiction
Stream	Riverine	Unified Stream Methodology	0.00	Federal
Wetland	Wetlands	Ratio	0.00	Federal

Notes:

Bank Name: 9 - Lone Oak

Bank Type: Private Commercial
Total Acres: 250
Distance to impact: 31 Miles
Permit No: NAO-2009-1585
Bank States: Virginia
Comments: Stream mitigation bank. Credits are assessed using the Unified Stream Methodology
Bank Sponsor: **Clearwater Mitigation I LLC**
4704 Rolfe Road
Richmond, VA 23226
Email: jparker@clearwaterventuresllc.com
Phone: (804) 819-0474
Bank POC: **James Parker**
Clearwater Ventures LLC
4704 Rolfe Road
Richmond, VA 23226
Email: jparker@clearwaterventuresllc.com
Phone: (804) 819-0474
Bank Manager: **Vincent Pero**
CENAO-REG
920 Gardens Blvd. Suite 103-B
Charlottesville, VA 22901
Email: vincent.d.pero@usace.army.mil
Phone: (434) 973-0568

Credit Type	Credit Classifications	Assessment Method	Available Credits	Jurisdiction
Stream	Riverine	Unified Stream Methodology	9,492.00	Federal

Notes:

Bank Name: 10 - Piedmont Farms

Bank Type: Private Commercial
Total Acres: 1910
Distance to impact: 27 Miles
Permit No: NAO-2009-00080
Bank States: Virginia
Comments: Eastview Farms-stream restoration and enhancement, buffer enhancement. Fulfillment Farms-stream preservation only
Bank Sponsor: **Mitigation Services Inc**
12811 Randolph Ridge Lane
Manassas, VA 20109
Bank POC: **Tara Kelly**
Senior Environmental Specialist
12811 Randolph Bridge LN
Manassas, VA 20109
Email: tkelly@anglerenvironmental.com
Phone: (703) 393-4844
Fax: (703) 393-2934

Ms Caitlan Parker
Credit Sales Coordinator
Resource Environmental Solutions, LLC
302 Jefferson Street Suite 110
Raleigh, NC 27605
Email: cparker@res.us
Phone: (919) 209-1075
Cell Phone: (910) 734-7612

Bank Manager: **Julie Hamilton**
Environmental Scientist
9100 Arboretum Parkway, Suite 235
Richmond, VA 23236
Email: julie.s.hamilton@usace.army.mil
Phone: (804) 323-3783

Credit Type	Credit Classifications	Assessment Method	Available Credits	Jurisdiction
Stream	Riverine	Unified Stream Methodology	1,061.00	Federal

Notes:

Bank Name: 11 - Ragland Farm

Bank Type: Private Commercial
Total Acres: 204
Distance to impact: 30 Miles
Permit No: NAO-2008-2208
Bank States: Virginia
Comments: Wetland and stream mitigation bank. Wetland credits are assessed using the mitigation ratio method. Stream credits are assessed using the Unified Stream Methodology (USM)

Bank Sponsor: **Ragland Farm Mitigation Bank, LLC**
Attn: Ms. Suzanne Humphrey
12445 Walkes Quarter Road
Chesterfield, VA 23838
Phone: (804) 516-9435

Bank POC: **Jamie Hudson**
Consultant
Virginia Wetland Consulting LC
P.O. Box 206
Quinton, VA 23141
Email: ajh@vawetlandconsulting.com
Phone: (804) 932-3135

Suzanne Humphrey
Sales POC
Ragland Farm Mitigation Bank LLC
12445 Walkes Quarter Rd
Chesterfield, VA 23838
Phone: (804) 516-9435

Bank Manager: **Todd Miller**
Environmental Scientist
9100 Arboretum Pkwy, Ste 235
Richmond, VA 23236
Email: todd.m.miller@usace.army.mil
Phone: (804) 323-3782

Credit Type	Credit Classifications	Assessment Method	Available Credits	Jurisdiction
Stream	Riverine	Unified Stream Methodology	1,295.00	Federal
Wetland	Wetlands	Ratio	0.00	Federal

Notes:

Bank Name: 12 - Weatherbury

Bank Type: Private Commercial
Total Acres: 150
Distance to impact: 24 Miles
Permit No: NAO-2008-2938
Bank States: Virginia
Comments: Proposed wetland and stream mitigation bank. Compensatory ratio & Unified Stream Methodology

Bank Sponsor:
Clearwater Mitigation I LLC
4704 Rolfe Road
Richmond, VA 23226
Email: jparker@clearwaterventuresllc.com
Phone: (804) 819-0474

Bank POC:
James Parker
Clearwater Ventures LLC
4704 Rolfe Road
Richmond, VA 23226
Email: jparker@clearwaterventuresllc.com
Phone: (804) 819-0474

Bank Manager:
Silvia Gazzera
Environmental Scientist
9100 Arboretum Parkway
Richmond, VA 23236
Email: silvia.b.gazzera@usace.army.mil
Phone: (804) 323-3781

Credit Type	Credit Classifications	Assessment Method	Available Credits	Jurisdiction
Stream	Riverine	Unified Stream Methodology	128.00	Federal
Wetland	Wetlands	Ratio	1.49	Federal

Notes:

Bank Name: 13 - White Oak Landing

Bank Type: Private Commercial
Total Acres: 55
Distance to impact: 24 Miles
Permit No: NAO-2008-1043
Bank States: Virginia
Comments: Wetland and stream mitigation bank. Wetland credits are assessed using the mitigation ratio method. Stream credits are assessed using the Unified Stream Methodology

Bank Sponsor:
Harold Hardin
Paynes Pond LLC
12624 Eagle Ridge Road
Richmond, VA 23233
Email: haroldh@htrsi.com
Phone: (804) 357-7532

Bank POC: **Harold Hardin**
Paynes Pond LLC
12624 Eagle Ridge Road
Richmond, VA 23233
Email: haroldh@htrsi.com
Phone: (804) 357-7532

Jamie Hudson
Consultant
Virginia Wetland Consulting LC
P.O. Box 206
Quinton, VA 23141
Email: ajh@vawetlandconsulting.com
Phone: (804) 932-3135

Bank Manager: **Vincent Pero**
CENAO-REG
920 Gardens Blvd. Suite 103-B
Charlottesville, VA 22901
Email: vincent.d.pero@usace.army.mil
Phone: (434) 973-0568

Credit Type	Credit Classifications	Assessment Method	Available Credits	Jurisdiction
Stream	Riverine	STREAM	11.00	Federal
Wetland	Wetlands	Ratio	0.00	Federal

Notes:

Bank Name: 14 - Willis River

Bank Type: Private Commercial
Total Acres: 200
Distance to impact: 21 Miles
Permit No: NAO-2006-7632
Bank States: Virginia
Comments: Wetland and stream mitigation bank. Wetland credits are assessed using the Mitigation Ratio method. Stream credits are assessed using the Unified Stream Methodology (USM).

Bank Sponsor: **Wetland Resource Management, LLC**
1703 N. Parham Rd, Suite 202
Richmond, VA 23229

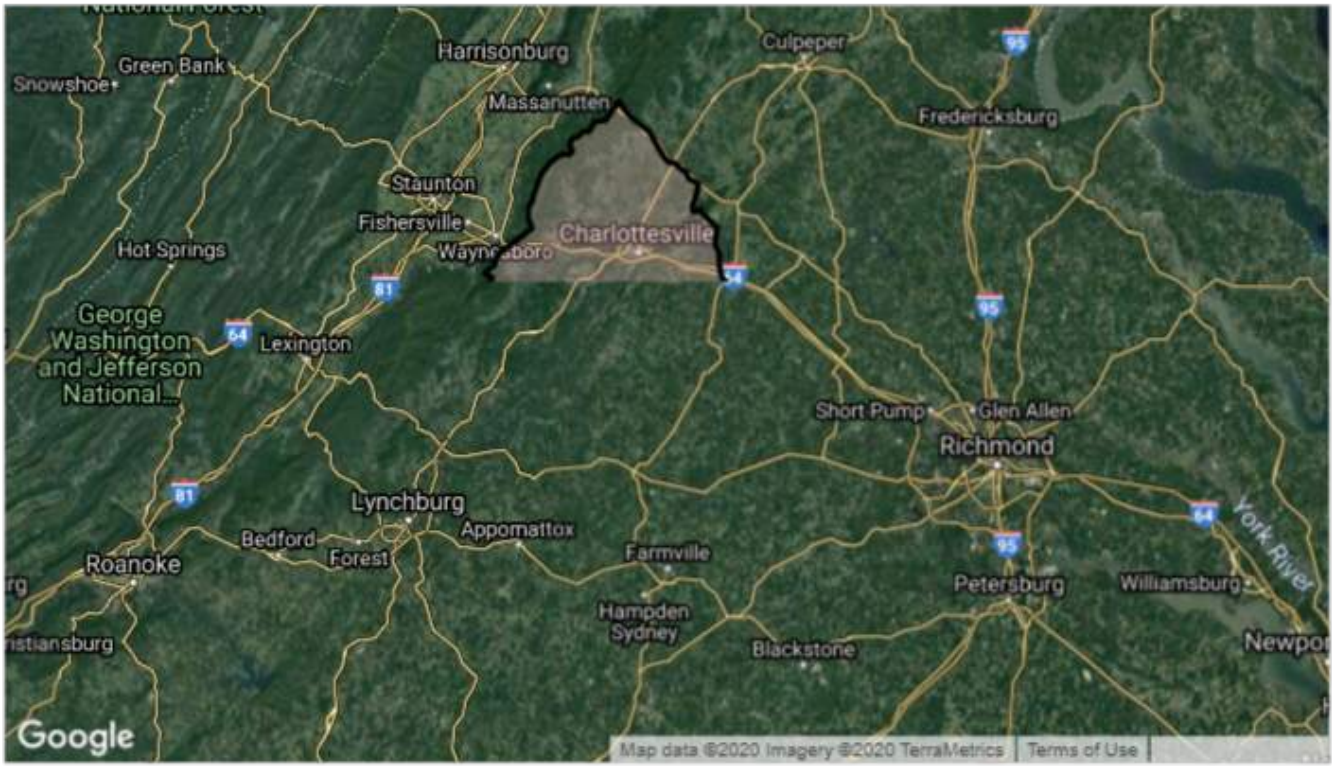
Bank POC: **George L Bryant III**
1703 N Parham Road, Suite 202
Richmond, VA 23229
Email: gbryant@koontzbryant.com
Phone: (804) 200-1902
Cell Phone: (804) 874-9314
Fax: (804) 740-7338

Bank Manager: **Vincent Pero**
CENAO-REG
920 Gardens Blvd. Suite 103-B
Charlottesville, VA 22901
Email: vincent.d.pero@usace.army.mil
Phone: (434) 973-0568

Credit Type	Credit Classifications	Assessment Method	Available Credits	Jurisdiction
Stream	Riverine	Unified Stream Methodology	62.00	Federal
Wetland	Wetlands	Ratio	0.00	Federal

Notes:

ILF Program Advance Credits



Program Name: Virginia Aquatic Resources Trust Fund

Program Type: ILF
Distance to impact: 82 Miles
Permit No:
Program States: Virginia
Program Sponsor: **The Nature Conservancy of Virginia**
490 Westfield Rd
Charlottesville, VA 22901

Program POC: **Karen Johnson**
Land Protection Specialist
The Nature Conservancy
530 East Main Street, Suite 800
Richmond, VA 23219
Email: karen_johnson@TNC.ORG
Phone: (804) 644-5800 X 116
Fax: (804) 644-1685

Program Manager: **Jeanne Richardson**
Environmental Scientist
Lynchburg Field Office USACE
PO Box 3160
Lynchburg, VA 24503
Email: jeanne.c.richardson@usace.army.mil
Phone: (434) 384-0182
Fax: (434) 384-7689

Credit Type	Service Area	Advanced Credits
Non-Tidal	Middle James	7.41
Stream	Middle James	5,000.00
Tidal	Middle James	
Wetland	Middle James	

Notes:

LONE OAK STREAM MITIGATION BANK

March 17, 2020

Brent Johnson
Koontz Bryant Johnson Williams
11901 Old Stage Road
Chester, VA
Sent Via Email: bjohnson@kbjwgroup.com

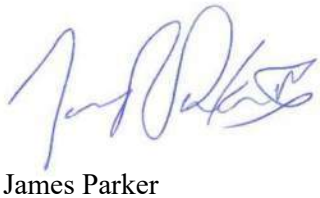
RE: Stream Credit Availability for the Green Ridge Landfill project located off Route 60 and west of Miller Lane in Cumberland County, VA within the James River Watershed and HUC 02080205

Dear Brent:

Clearwater Mitigation I LLC owns and operates the Lone Oak Stream Mitigation Bank ("Lone Oak") which has approval from the U.S. Army Corps of Engineers ("USACE") and the Virginia Department of Environmental Quality ("DEQ") to provide stream mitigation credits for offset of authorized impacts within the James River Watershed including HUCs 02080203, 02080204, 02080205, and 02080207. Currently, Lone Oak has 13,663 Stream Credits available to offset impacts in these regions. It is my understanding that your project, referenced above, requires between 7,000-10,000 Stream Credits to satisfy the permit requirements.

This letter serves as confirmation that Lone Oak has enough stream credits available to satisfy your mitigation requirements. Please contact me directly to secure these credits by way of a purchase agreement to guarantee availability. On behalf of Clearwater Ventures LLC, I truly appreciate the opportunity to work with you and your client on this project.

Very truly yours,



James Parker
Managing Member
Clearwater Mitigation I LLC
804-819-0474
jparker@clearwaterventuresllc.com

Copy to: Hannah Miller, Koontz Bryant Johnson Williams

Attachment E

Threatened and Endangered Species and Cultural and Historic Resources Database Search

United States Department of the Interior

FISH AND WILDLIFE SERVICE

[redacted]

Virginia Field Office
6669 Short Lane
Gloucester, VA 23061

Date: 06/26/2020

Self-Certification Letter

Project Name: Green Ridge Landfill PRM

Dear Applicant:

Thank you for using the U.S. Fish and Wildlife Service (Service) Virginia Ecological Services online project review process. By printing this letter in conjunction with your project review package, you are certifying that you have completed the online project review process for the project named above in accordance with all instructions provided, using the best available information to reach your conclusions. This letter, and the enclosed project review package, completes the review of your project in accordance with the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended (ESA). This letter also provides information for your project review under the National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be submitted to this office for this certification to be valid. This letter and the project review package will be maintained in our records.

The species conclusions table in the enclosed project review package summarizes your ESA conclusions. These conclusions resulted in:

- "no effect" determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- Action may affect the northern long-eared bat; however, any take that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR § 17.40(o) [as determined through the Information, Planning, and Consultation System (IPaC) northern long-eared bat assisted determination key]; and/or
- "may affect, not likely to adversely affect" determinations for proposed/listed species and/or proposed/designated critical habitat.

We certify that use of the online project review process in strict accordance with the instructions provided as documented in the enclosed project review package results in reaching the appropriate determinations. Therefore, we concur with the determinations described above for proposed and listed species and proposed and designated critical habitat. Additional coordination with this office is not needed.

Candidate species are not legally protected pursuant to the ESA. However, the Service encourages consideration of these species by avoiding adverse impacts to them. Please contact this office for additional coordination if your project action area contains candidate species.

Should project plans change or if additional information on the distribution of proposed or listed species, proposed or designated critical habitat becomes available, this determination may be reconsidered. This certification letter is valid for 1 year.

Information about the online project review process including instructions and use, species information, and other information regarding project reviews within Virginia is available at our website http://www.fws.gov/northeast/virginiafield/endspecies/project_reviews.html. If you have any questions, please contact Troy Andersen of this office at (804) 824-2428.

Sincerely,

Cindy Schulz
Field Supervisor
Virginia Ecological Services

Enclosures - project review package

Species Conclusions Table

Project Name: Green Ridge Landfill PRM

Date: 04/15/2020

Species / Resource Name	Conclusion	ESA Section 7	Notes / Documentation
Northern Long Eared Bat (FT) (*Myotis septentrionalis*)	May effect	No adverse effect	Determination Key – any take of the northern long eared bat that may occur as a result of the action is not prohibited under the Final 4(d) rule. There are no known hibernacula or maternity roost trees are located within 5.5 miles of the project area. Therefore, in accordance with the Final 4(d) Rule, the project should not have an adverse effect on this species.
Critical Habitat (IPaC)	No Critical Habitat Present	No effect	
Bald Eagles	Unlikely to disturb nesting bald eagles/Does not intersect with bald eagle concentration area	No Eagle Act permit required	No nests within 660' and not within an eagle concentration area.
FE = Federally Endangered; FT = Federally Threatened; PFT = Proposed Federally Threatened; SE = State Endangered; ST = State Threatened; IPaC = USFWS Information for Planning and Consultation database			

Acknowledgement: I agree that the above information about my proposed project is true. I used all the provided resources to make an informed decision about impacts in the immediate and surrounding areas.

Monica E Young

Monica Young - Regulatory Specialist — 04/15/2020

Signature / Title — Date

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
Phone: (804) 693-6694 Fax: (804) 693-9032
http://www.fws.gov/northeast/virginiafield/

In Reply Refer To: April 15, 2020
Consultation Code: 05E2VA00-2020-SLI-3252
Event Code: 05E2VA00-2020-E-09131
Project Name: Green Ridge Landfill

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered

species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
(804) 693-6694

Project Summary

Consultation Code: 05E2VA00-2020-SLI-3252

Event Code: 05E2VA00-2020-E-09131

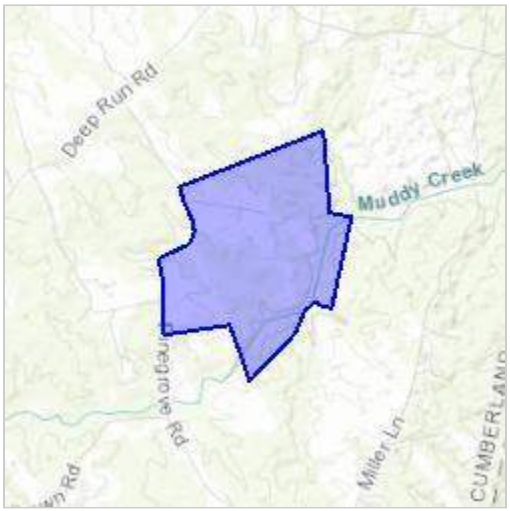
Project Name: Green Ridge Landfill

Project Type: LAND - RESTORATION / ENHANCEMENT

Project Description: Mitigation Site

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/37.578994281714984N78.12757368277329W



Counties: Cumberland, VA

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

VaFWIS Search Report Compiled on 4/7/2020, 10:36:13 AM

Help

Known or likely to occur within a **2 mile radius around point 37.5808920 -78.1254458** in **049 Cumberland County, 145 Powhatan County, VA**

View Map of Site Location

421 Known or Likely Species ordered by Status Concern for Conservation (displaying first 20) (20 species with Status* or Tier I** or Tier II**)

BOVA Code	Status*	Tier**	Common Name	Scientific Name	Confirmed	Database(s)
060017	FESE	Ia	Spinymussel, James	Parvaspina collina		BOVA
060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon		BOVA
050022	FTST	Ia	Bat, northern long-eared	Myotis septentrionalis		BOVA
060029	FTST	IIa	Lance, yellow	Elliptio lanceolata		BOVA,HU6
050020	SE	Ia	Bat, little brown	Myotis lucifugus		BOVA
050034	SE	Ia	Bat, Rafinesque's eastern big-eared	Corynorhinus rafinesquii macrotis		BOVA,HU6
050027	SE	Ia	Bat, tri-colored	Perimyotis subflavus		BOVA
060006	SE	Ib	Floater, brook	Alasmidonta varicosa		BOVA
040293	ST	Ia	Shrike, loggerhead	Lanius ludovicianus		BOVA
060173	FPST	Ia	Pigtoe, Atlantic	Fusconaia masoni		BOVA,HU6
060081	ST	IIa	Floater, green	Lasmigona subviridis		BOVA,HU6
040292	ST		Shrike, migrant loggerhead	Lanius ludovicianus migrans		BOVA
030063	CC	IIIa	Turtle, spotted	Clemmys guttata		BOVA,HU6
060084		Ib	Pigtoe, Virginia	Lexingtonia subplana		BOVA
040213		Ic	Owl, northern saw-whet	Aegolius acadicus		BOVA,HU6
040052		IIa	Duck, American black	Anas rubripes		BOVA,HU6
040029		IIa	Heron, little blue	Egretta caerulea caerulea		BOVA
040320		IIa	Warbler, cerulean	Setophaga cerulea		BOVA,HU6
040140		IIa	Woodcock, American	Scolopax minor		BOVA,HU6
040105		IIb	Rail, king	Rallus elegans		BOVA

To view **All 421 species** View 421

*FE=Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FP=Federal Proposed; FC=Federal Candidate; CC=Collection Concern

**I=VA Wildlife Action Plan - Tier I - Critical Conservation Need; II=VA Wildlife Action Plan - Tier II - Very High Conservation Need; III=VA Wildlife Action Plan - Tier III - High Conservation Need;
IV=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need
Virginia Widlife Action Plan Conservation Opportunity Ranking:
a - On the ground management strategies/actions exist and can be feasibly implemented.;
b - On the ground actions or research needs have been identified but cannot feasibly be implemented at this time.;
c - No on the ground actions or research needs have been identified or all identified conservation opportunities have been exhausted.

Bat Colonies or Hibernacula: **Not Known**

Anadromous Fish Use Streams

N/A

Impediments to Fish Passage (2 records)

View Map of All Fish Impediments

ID	Name	River	View Map
1053	FLIPPEN DAM	MUDDY CREEK	Yes
707	SANDERSON DAM	DAVIS CREEK	Yes

Colonial Water Bird Survey

N/A

Threatened and Endangered Waters

N/A

Managed Trout Streams

N/A

Bald Eagle Concentration Areas and Roosts

N/A

Bald Eagle Nests

N/A

Species Observations (1 records)

View Map of All Query Results
Species Observations

obsID	class	Date Observed	Observer	N Species			View Map
				Different Species	Highest TE*	Highest Tier**	
617928	SppObs	Aug 31 2012	Joseph ; Mitchell	1		IV	Yes

Displayed 1 Species Observations

Habitat Predicted for Aquatic WAP Tier I & II Species

N/A

Habitat Predicted for Terrestrial WAP Tier I & II Species

N/A

Virginia Breeding Bird Atlas Blocks

N/A

Public Holdings:

N/A

Summary of BOVA Species Associated with Cities and Counties of the Commonwealth of Virginia:

FIPS Code	City and County Name	Different Species	Highest TE	Highest Tier
049	Cumberland	348	FTSE	I
145	Powhatan	348	FTSE	I

USGS 7.5' Quadrangles:
Whiteville
Trenholm

USGS NRCS Watersheds in Virginia:

N/A

USGS National 6th Order Watersheds Summary of Wildlife Action Plan Tier I, II, III, and IV Species:

HU6 Code	USGS 6th Order Hydrologic Unit	Different Species	Highest TE	Highest Tier
JM71	Muddy Creek	51	FTSE	I

Compiled on 4/7/2020, 10:36:13 AM I1024192.0 report=all searchType= R dist= 3218 poi= 37.5808920 -78.1254458

PixelSize=64; Anadromous=0.027065; BBA=0.0303290000000001; BECAR=0.023061; Bats=0.02352; Buffer=0.09624; County=0.109914; HU6=0.080789; Impediments=0.034798; Init=0.192891; PublicLands=0.032401; Quad=0.056094; SppObs=0.220756; TEWaters=0.028837; TierReaches=0.030984; TierTerrestrial=0.046781; Total=1.163216; Tracking_BOVA=0.141792; Trout=0.02918; huva=0.039968

Natural Heritage Resources

Your Criteria

Taxonomic Group: Select All

Global Conservation Status Rank: Select All

State Conservation Status Rank: Select All

Federal Legal Status: LE - Listed endangered,LT - Listed threatened

State Legal Status: LE - Listed endangered,LT - Listed threatened

Watershed (8 digit HUC): 02080205 - Middle James-Willis River

Subwatershed (12 digit HUC): JM71 - Muddy Creek-Davis Creek

Search Run: 4/7/2020 10:21:29 AM

Result Summary

Total Species returned: 4

Total Communities returned: 0

Click scientific names below to go to NatureServe report.

Click column headings for an explanation of species and community ranks.

Common Name/Natural Community	Scientific Name	Scientific Name Linked	Global Conservation Status Rank	State Conservation Status Rank	Federal Legal Status	State Legal Status	Statewide Occurrences	Virginia Coastal Zone
Middle James-Willis								
Muddy Creek-Davis Creek								
BIRDS								
Loggerhead Shrike	Lanius ludovicianus	Lanius ludovicianus	G4	S1B,S2N	None	LT	41	N
BIVALVIA (MUSSELS)								
Yellow Lance	Elliptio lanceolata	Elliptio lanceolata	G2	S2S3	LT	None	48	N
Atlantic Pigtoe	Fusconaia masoni	Fusconaia masoni	G1	S2	PT	LT	27	N
Green Floater	Lasmigona subviridis	Lasmigona subviridis	G3	S2	None	LT	65	N

Note: On-line queries provide basic information from DCR's databases at the time of the request. They are NOT to be substituted for a project review or for on-site surveys required for environmental assessments of specific project areas.

For Additional Information on locations of Natural Heritage Resources please submit an information request.

To Contribute information on locations of natural heritage resources, please fill out and submit a rare species sighting form.

CCB Mapping Portal

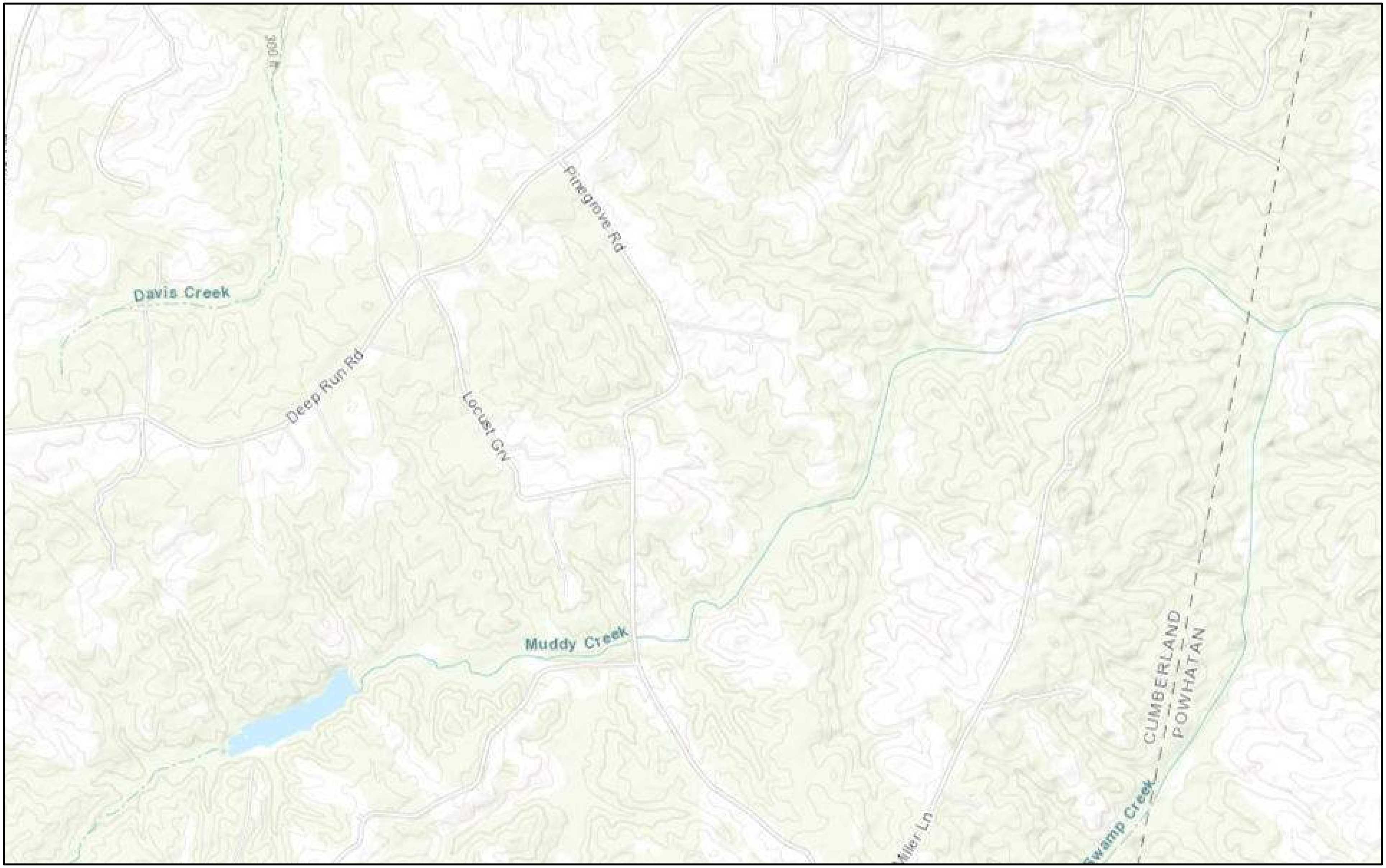
Layers: VA Eagle Nest Locator, VA Eagle Nest Buffers, Eagle Roosts, Eagle Roost Polygons, Eagle Roost Buffers

Map Center [longitude, latitude]: [-78.12249183654785, 37.57468486365454]

Map Link:
https://ccbbirds.org/maps/#layer=VA+Eagle+Nest+Locator&layer=VA+Eagle+Nest+Buffers&layer=Eagle+Roosts&layer=Eagle+Roost+Polygons&layer=Eagle+Roost+Buffers&zoom=14&lat=37.57468486365454&lng=-78.12249183654785&base=Street+Map+%28OSM%2FCarto%29

Report Generated On: 04/07/2020

9LRODWLRQV DQG 5RRVW 7UHHV



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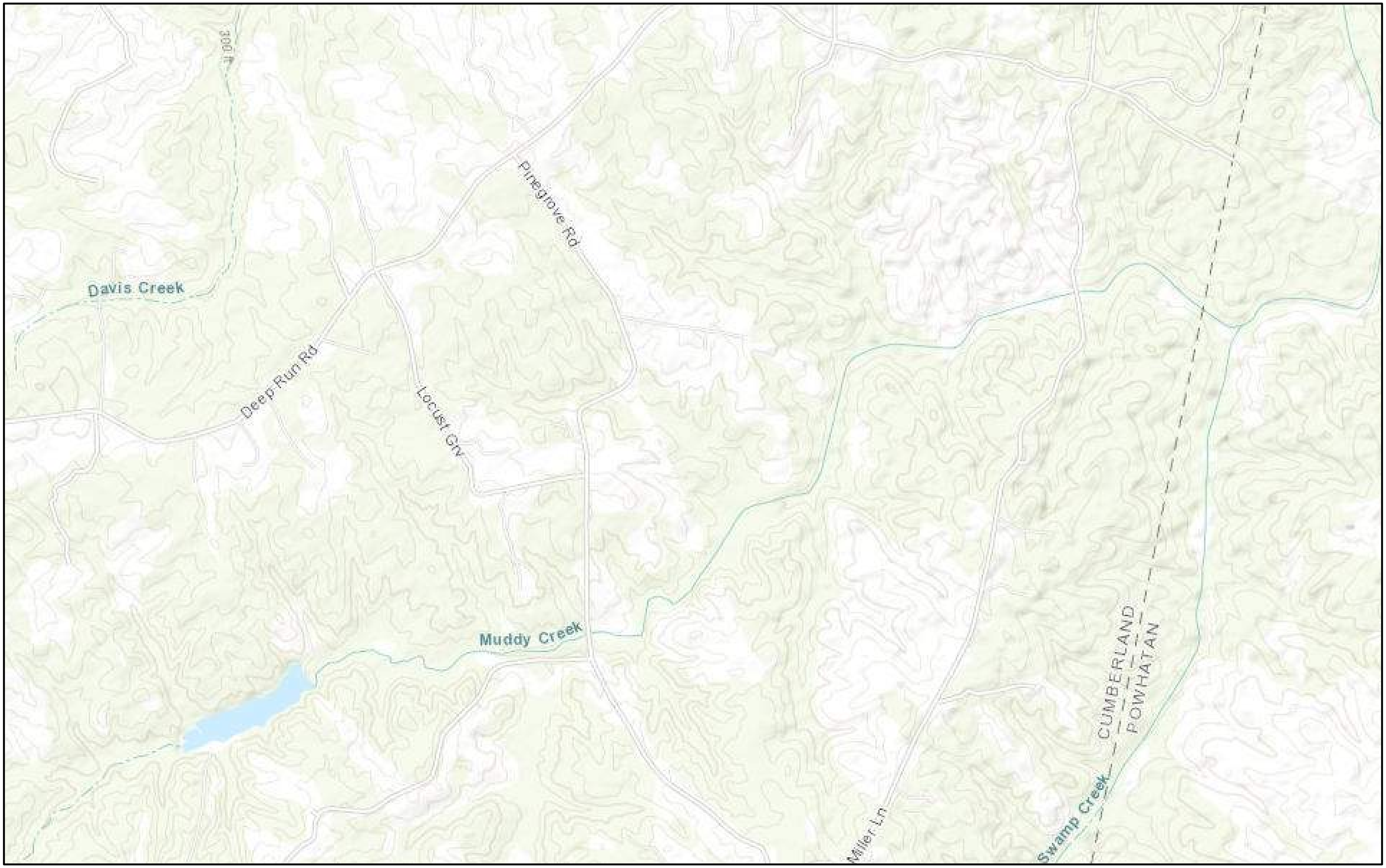

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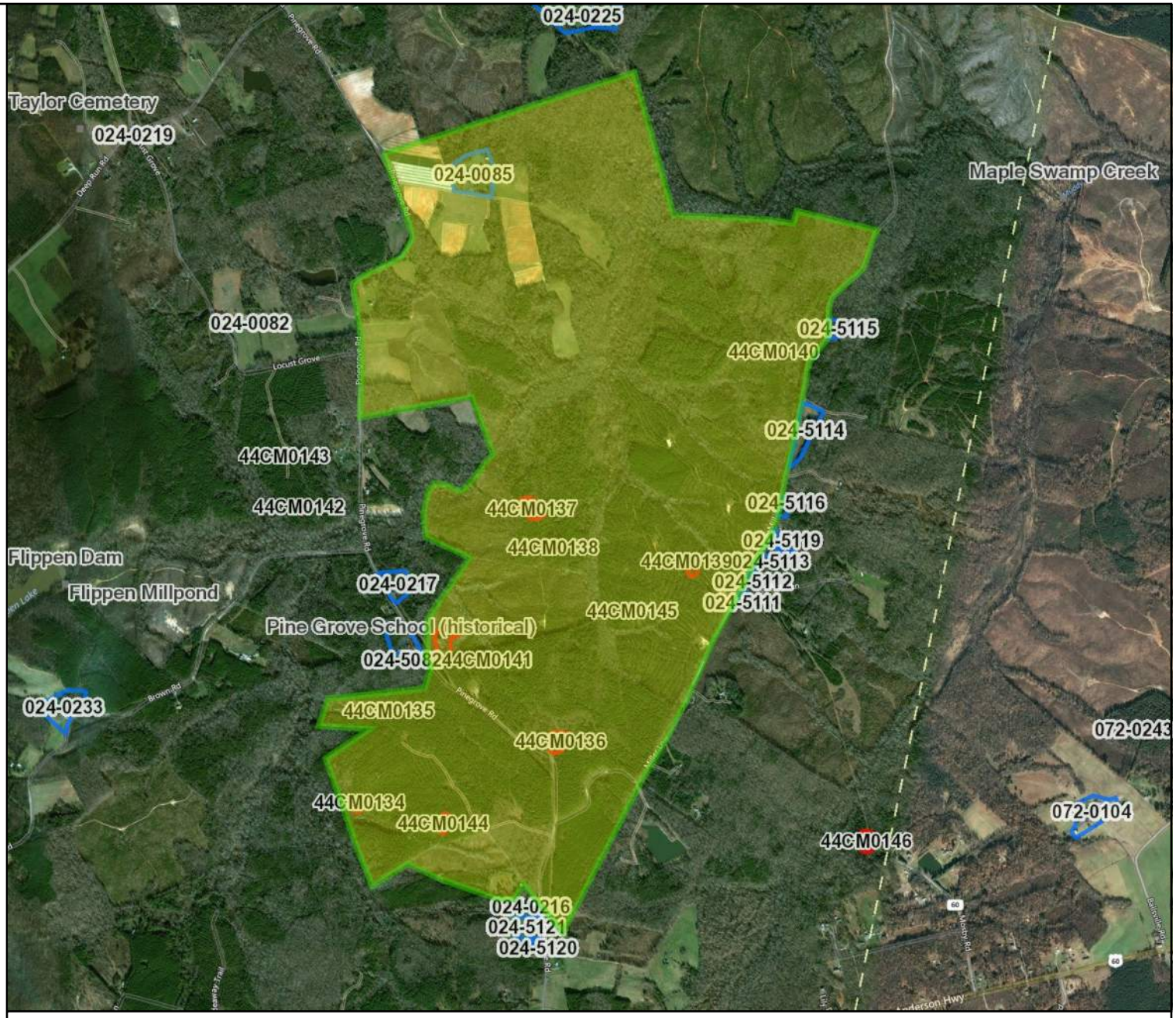
Virginia Dept. of Historic Resources

V-CRIS

Virginia Cultural Resource Information System

Legend

- Architecture Resources
- Architecture Labels
- Individual Historic District Properties
- Archaeological Resources
- Archaeology Labels
- DHR Easements
- USGS GIS Place names
- County Boundaries



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Feet

0 600 1200 1800 2400

1:36,112 / 1"=3,009 Feet

Title: Green Ridge Landfill PRM **Date: 6/4/2020**

DISCLAIMER:Records of the Virginia Department of Historic Resources (DHR) have been gathered over many years from a variety of sources and the representation depicted is a cumulative view of field observations over time and may not reflect current ground conditions.The map is for general information purposes and is not intended for engineering, legal or other site-specific uses. Map may contain errors and is provided "as-is". More information is available in the DHR Archives located at DHR's Richmond office.

Notice if AE sites:Locations of archaeological sites may be sensitive the National Historic Preservation Act (NHPA), and the Archaeological Resources Protection Act (ARPA) and Code of Virginia §2.2-3705.7 (10). Release of precise locations may threaten archaeological sites and historic resources.

Snapshot

Date Generated: June 04, 2020

Site Name: Graveyard
Site Classification: Terrestrial, open air
Year(s): No Data
Site Type(s): Cemetery
Other DHR ID: No Data
Temporary Designation: Site 1

Site Evaluation Status

DHR Staff: Potentially Eligible

Locational Information

USGS Quad: WHITEVILLE
County/Independent City: Cumberland (County)
Physiographic Province: Piedmont
Elevation: 330
Aspect: Facing Southeast
Drainage: James
Slope: 2 - 6
Acreage: 0.360
Landform: Ridge Spur
Ownership Status: Private
Government Entity Name: No Data

Site Components

Component 1

Category: Funerary
Site Type: Cemetery
Cultural Affiliation: Indeterminate
DHR Time Period: Reconstruction and Growth
Start Year: No Data
End Year: No Data
Comments: 2018 Browning: The site represents as at least 22 burials represented by fieldstone headers and some fieldstone footers. The graveyard appears as roughly 3 irregular rows of graves. Initial inspection was in August with leaf growth that precluded a full understanding of the layout. Additional graves are not only likely but very probable. The initial appearance is that of an African-American graveyard, but without further investigation, that attribution is speculative.

Bibliographic Information

Bibliography:

No Data

Informant Data:

No Data

CRM Events

Event Type: DHR Staff: Potentially Eligible

DHR ID: 44CM0134
Staff Name: Roger Kirchen
Event Date: 4/30/2020
Staff Comment 2019-0180

Event Type: Archaeological Assessment

Project Staff/Notes:
No Data
Project Review File Number: No Data
Sponsoring Organization: No Data
Organization/Company: Browning & Associates, LTD
Investigator: Lyle Browning
Survey Date: 10/1/2018
Survey Description:
2018 Browning: visual examination of impact area, 2018

Current Land Use	Date of Use	Comments
Forest	8/28/2018 12:00:00 AM	2018 Browning: site appears in forest with limited visibility.

Threats to Resource: None Known
Site Conditions: Intact Cultural Level
Survey Strategies: Informant, Observation
Specimens Collected: No
Specimens Observed, Not Collected: No
Artifacts Summary and Diagnostics:
No Data
Summary of Specimens Observed, Not Collected:
No Data
Current Curation Repository: No Data
Permanent Curation Repository: No Data
Field Notes: No
Field Notes Repository: No Data
Photographic Media: Digital
Survey Reports: Yes
Survey Report Information:
Green Ridge Landfill, Phase IA Cultural Resources Evaluation, Browning & Associates, LTD. 2018
Survey Report Repository: DHR
DHR Library Reference Number: No Data
Significance Statement: 2018 Browning: The graveyard shows 3 rows of intermittent graves. There are some header and footer stones, all of which are fieldstones. There are some with header stones only and a few with no markers. The site is located just off the crest of a spur ridge. At least 22 graves are in the graveyard. Revisiting the site after leaf fall will be done. The graveyard is probably African-American. It is within a buffer zone for the proposed Green Ridge Landfill and will be cleaned up and maintained by the landfill owners.
Surveyor's Eligibility Recommendations: Recommended Potentially Eligible
Surveyor's NR Criteria Recommendations, : A, D
Surveyor's NR Criteria Considerations: Cemetery

Snapshot

Date Generated: June 04, 2020

Site Name: Reverend's Still
Site Classification: Terrestrial, open air
Year(s): No Data
Site Type(s): Distillery
Other DHR ID: No Data
Temporary Designation: Site 2

Site Evaluation Status

Not Evaluated

Locational Information

USGS Quad: WHITEVILLE
County/Independent City: Cumberland (County)
Physiographic Province: Piedmont
Elevation: 290
Aspect: Facing South
Drainage: James
Slope: 0 - 2
Acreage: 0.080
Landform: Floodplain
Ownership Status: Private
Government Entity Name: No Data

Site Components

Component 1

Category: Industry/Processing/Extraction
Site Type: Distillery
Cultural Affiliation: Indeterminate
DHR Time Period: Reconstruction and Growth
Start Year: No Data
End Year: No Data
Comments: 2018 Browning: The site is represented by 4 galvanized sided, wood bottomed barrels, 1 55gal metal barrel adapted with a pipe extension, with a cinderblock base, several barrel hoops for wooden barrels, all of which have axe marks and bullet holes from ATF demolition. The still was run by a Baptist minister who owned the first automobile in Cumberland County. A condition of sale was that the car was to be used for: "no illicit purpose" and if was used as such, the car would be forfeit as would the monthly payments. The car was never forfeited.

Bibliographic Information

Bibliography:

No Data

Informant Data:

No Data

CRM Events

Event Type: DHR Staff: Other

DHR ID: 44CM0135
Staff Name: Roger Kirchen
Event Date: 4/30/2020
Staff Comment 2019-0180. Remains unevaluated.

Event Type: Archaeological Assessment

Project Staff/Notes:
No Data
Project Review File Number: No Data
Sponsoring Organization: No Data
Organization/Company: Browning & Associates, LTD
Investigator: Lyle Browning
Survey Date: 10/1/2018
Survey Description:
2018 Browning: visual examination of impact area, 2018

Current Land Use	Date of Use	Comments
Forest	10/7/2018 12:00:00 AM	2018 Browning: the still is located in a forested floodplain adjacent a small stream.

Threats to Resource: None Known
Site Conditions: Surface Features
Survey Strategies: Informant, Observation
Specimens Collected: No
Specimens Observed, Not Collected: No
Artifacts Summary and Diagnostics:
No Data
Summary of Specimens Observed, Not Collected:
No Data
Current Curation Repository: No Data
Permanent Curation Repository: No Data
Field Notes: No
Field Notes Repository: No Data
Photographic Media: Digital
Survey Reports: Yes
Survey Report Information:
Green Ridge Landfill, Phase IA Cultural Resources Evaluation, Browning & Associates, LTD. 2018
Survey Report Repository: DHR
DHR Library Reference Number: No Data
Significance Statement: 2018 Browning: As related by knowledgeable locals, the still was run by a Baptist Minister at the turn of the 20th century. He also owned one of the first cars in Cumberland County and a condition of sale was that the car be used for "No illicit purpose" and if it was so used, the car and car payments would be forfeit. The site is represented by 5 galvanized metal sided, wooden bottomed barrels, various barrel hoops and a 55 gallon metal barrel adapted for use as a boiler. The boiler sits upon a cinderblock foundation. The site was destroyed by local law enforcement as there are axe chopmarks in the barrels and boiler along with bullet holes. The still represents a well preserved open-air illegal distillery common in VA but under-represented in the records. The site is as it was when destroyed apart from the disintegration of the wooden barrels and of the galvanized metal wooden bottomed barrels.

The still is in a buffer zone and will not be affected by landfill construction. Photos have been taken and a detailed plan will be composed.
Surveyor's Eligibility Recommendations: Recommended Eligible

Surveyor's NR Criteria Recommendations, :	A, D
Surveyor's NR Criteria Considerations:	No Data

Snapshot

Date Generated: June 04, 2020

Site Name: Moved House
Site Classification: Terrestrial, open air
Year(s): No Data
Site Type(s): Farmstead
Other DHR ID: No Data
Temporary Designation: Site 3

Site Evaluation Status

DHR Staff: Potentially Eligible

Locational Information

USGS Quad: TRENHOLM, WHITEVILLE
County/Independent City: Cumberland (County)
Physiographic Province: Piedmont
Elevation: 370
Aspect: Facing Southwest
Drainage: James
Slope: 0 - 2
Acreage: 2.220
Landform: Knoll
Ownership Status: Private
Government Entity Name: No Data

Site Components

Component 1

Category: Domestic
Site Type: Farmstead
Cultural Affiliation: African American, Euro-American
DHR Time Period: Antebellum Period, Civil War, Early National Period, Reconstruction and Growth, The New Dominion, World War I to World War II
Start Year: No Data
End Year: No Data
Comments: October 2018 Browning: The site presents as an "L-shaped" cellar filled with discarded automobile and household items of dump origin. Box "trees" are present south and east of the cellar hole. West of the cellar is a remnant of a timber framed mortise and tenoned outbuilding with machine cut and wire nails into the uprights. This structure sits upon a foundation of ashlar block stones with no mortar. Electricity was in use at the house. Behind the structure away from Pinegrove Road, there is an extensive former lawn area, now overgrown. The house was reported to have been removed to Britain about 30 years ago. Currently, there is no verification of any of this.

July 2019 Rose: According to a local contractor and long-time resident of Powhatan County, the house was occupied until 1975, when it was dismantled and reassembled on a new site on the west side of Ballsville Road in Powhatan County, approximately four miles east of its former location. This information has not been confirmed, but the informant knew the contractor who had moved and reassembled the structure by name, and mentioned that he has since retired and moved away from the area.
A structure and associated outbuildings are visible and appears to be occupied in the 1947 and 1958 aerial photographs of the project vicinity.
Eighty-six STPs were excavated within and immediately adjacent to the boundary of site 44CM0136. One hundred twenty-eight artifacts were recovered from 21 positive STPs. Soil profiles retain a high degree of stratigraphic integrity. This site is interpreted at the remains of a domestic farmstead dating from the late eighteenth- to the late twentieth- century.

Bibliographic Information

Bibliography:

2019 Rose, J. Craig and Lyle Browning
Phase IB Cultural Resources Investigation of the Green Ridge Property, Cumberland County, Virginia

Informant Data:

No Data

CRM Events

Event Type: DHR Staff: Potentially Eligible

DHR ID: 44CM0136
Staff Name: Roger Kirchen
Event Date: 4/30/2020
Staff Comment 2019-0180

Event Type: Survey:Phase I

Project Staff/Notes:

Craig Rose-Principal Investigator
Lyle Browning-Project Manager
C. Neil Manson-Historic Researcher
Jorge Quitana - Field Archaeologist
Mike Johnson - Field Archaeologist
Emery Bencini - Field Archaeologist
Steve Rann - Field Archaeologist

Project Review File Number: No Data
Sponsoring Organization: No Data
Organization/Company: Dominion Research Group
Investigator: Craig Rose
Survey Date: 3/4/2019
Survey Description:

Phase I archaeological survey of a 1,200 acre property in Cumberland County, Virginia

Current Land Use	Date of Use	Comments
Forest	7/1/2019 12:00:00 AM	Overgrown yard.

Threats to Resource: Development
Site Conditions: Surface Deposits Present And With Subsurface Integrity
Survey Strategies: Historic Map Projection, Observation, Subsurface Testing
Specimens Collected: Yes
Specimens Observed, Not Collected: No
Artifacts Summary and Diagnostics:

Ceramics
4pearlware sherds
3stoneware sherds
1unidentified sherd
Glass
24windowpane, lime soda fragments
5bottle/jar, automatic bottle machine (ABM) fragments
4bottle/jar, unidentified fragments
3bottle/jar, contact mold fragments
3unidentifiedlime soda fragments
1windowpane, unidentified fragment
1unidentified fragment
Metal
10wire nails/fragments
9unidentified nails/fragments
6unidentified ferrous metal fragments
4cut nails/fragments
1chain link, possible spring snap link
1wrought nail
1button flat, round, copper alloy, embossed lettering on back LONDON
Miscellaneous
13brick fragments
5bone fragments

Summary of Specimens Observed, Not Collected:

No Data

Current Curation Repository: Browning & Associates, Hartfield, VA
Permanent Curation Repository: DHR

Field Notes: Yes
Field Notes Repository: DHR
Photographic Media: Digital
Survey Reports: Yes
Survey Report Information:

2019 Rose, J. Craig and Lyle Browning
"Green Ridge, Phase IB Cultural Resources Investigation", Browning & Associates, LTD. Hartfield, Virginia.

Survey Report Repository: DHR
DHR Library Reference Number: No Data
Significance Statement: 2018 Browning: The site is an L-shaped cellar with at least one timber framed outbuilding with machine cut nails. The timbers have circular saw marks indicative of a post 1850 date. There appear to be other outbuildings in the compound as would be expected for a major household. Extensive open areas for gardens and grounds are behind the house. Box "trees" mark the front of the house oriented towards Pinegrove Road. The house was reported to have been moved to England (unsubstantiated as yet) and should therefore be of some significance.

2019 Rose:Site 44CM0136 includes the remains of the “Jeffrey” plantation noted on Gilmer’s 1864 Map of Cumberland County and visible in the 1947 and 1958 aerial images of the project vicinity. Although the dwelling was reportedly dismantled and relocated, outbuildings remain and subsurface deposits retain a high degree of integrity.

Surveyor's Eligibility Recommendations: Recommended Potentially Eligible
Surveyor's NR Criteria Recommendations, : D
Surveyor's NR Criteria Considerations: No Data

Event Type: Archaeological Assessment

Project Staff/Notes:

No Data

Project Review File Number: No Data
Sponsoring Organization: No Data
Organization/Company: Browning & Associates, LTD
Investigator: Lyle Browning
Survey Date: 10/1/2018
Survey Description:

2018 Browning: visual examination of impact area, 2018

Current Land Use	Date of Use	Comments
Forest	8/28/2018 12:00:00 AM	2018 Browning: The site has extensive grounds, former outbuildings and open space for various uses set upon an elevation.

Threats to Resource: Development
Site Conditions: Surface Deposits Present And With Subsurface Integrity
Survey Strategies: Historic Map Projection, Informant, Observation
Specimens Collected: No
Specimens Observed, Not Collected: No
Artifacts Summary and Diagnostics:

No Data

Summary of Specimens Observed, Not Collected:

No Data

Current Curation Repository: No Data
Permanent Curation Repository: No Data
Field Notes: No
Field Notes Repository: No Data
Photographic Media: Digital
Survey Reports: Yes
Survey Report Information:

Green Ridge Landfill, Phase IA Cultural Resources Evaluation, Browning & Associates, LTD. 2018

Survey Report Repository: DHR

DHR Library Reference Number:	No Data
Significance Statement:	2018 Browning: The site is an L-shaped cellar with at least one timber framed outbuilding with machine cut nails. The timbers have circular saw marks indicative of a post 1850 date. There appear to be other outbuildings in the compound as would be expected for a major household. Extensive open areas for gardens and grounds are behind the house. Box "trees" mark the front of the house oriented towards Pinegrove Road. The house was reported to have been moved to England (unsubstantiated as yet) and should therefore be of some significance.
Surveyor's Eligibility Recommendations:	Recommended for Further Survey
Surveyor's NR Criteria Recommendations, :	No Data
Surveyor's NR Criteria Considerations:	No Data

Snapshot

Date Generated: June 04, 2020

Site Name: Frog Site
Site Classification: Terrestrial, open air
Year(s): No Data
Site Type(s): Farmstead
Other DHR ID: No Data
Temporary Designation: Site 4

Site Evaluation Status

DHR Staff: Not Eligible

Locational Information

USGS Quad: WHITEVILLE
County/Independent City: Cumberland (County)
Physiographic Province: Piedmont
Elevation: 320
Aspect: Facing Southeast
Drainage: James
Slope: 0 - 2
Acreage: 2.240
Landform: Knoll
Ownership Status: Private
Government Entity Name: No Data

Site Components

Component 1

Category: Domestic
Site Type: Farmstead
Cultural Affiliation: African American, Indeterminate
DHR Time Period: Reconstruction and Growth, The New Dominion, World War I to World War II
Start Year: No Data
End Year: No Data
Comments: October 2018 Browning: The site is represented by a surface scatter of 20th century ceramics, a glass frog used for flower arrangements and a 20th century ceramic coffee mug.

July 2019 Rose: As originally defined, the site location corresponds to a heavily disturbed staging area. However, the STP survey demonstrated that the site extends further to the north and west, into an area that, while impacted by previous timbering activities, retains a greater degree of stratigraphic integrity. Thirty-six artifacts were recovered from sixteen positive STPs. Based on historic map projection, surface evidence of cultural activity, and positive STPs, site 44CM0137 measures approximately 400 by 250 feet and is interpreted as the remains of a late 19th/early 20th century dwelling.
The revised site boundary surrounds a structure visible in both the 1947 and 1958 aerial photographs of the project vicinity.

Bibliographic Information

Bibliography:

2019 Rose, J. Craig and Lyle Browning
Phase IB Cultural Resources Investigation of the Green Ridge Property, Cumberland County, Virginia

Informant Data:

No Data

CRM Events

Event Type: DHR Staff: Not Eligible

DHR ID: 44CM0137
Staff Name: Roger Kirchen
Event Date: 4/30/2020
Staff Comment 2019-0180

Event Type: Survey:Phase I

Project Staff/Notes:

Craig Rose-Principal Investigator
Lyle Browning-Project Manager
C. Neil Manson-Historic Researcher
Jorge Quitana - Field Archaeologist
Mike Johnson - Field Archaeologist
Emery Bencini - Field Archaeologist
Steve Rann - Field Archaeologist

Project Review File Number: No Data
Sponsoring Organization: No Data
Organization/Company: Dominion Research Group
Investigator: Craig Rose
Survey Date: 3/4/2019
Survey Description:

Phase I archaeological survey of a 1,200 acre property in Cumberland County, Virginia

Current Land Use	Date of Use	Comments
Forest	7/1/2019 12:00:00 AM	Recently logged.

Threats to Resource: Development
Site Conditions: 50-74% of Site Destroyed
Survey Strategies: Historic Map Projection, Observation, Subsurface Testing
Specimens Collected: Yes
Specimens Observed, Not Collected: No
Artifacts Summary and Diagnostics:

Ceramics
3whiteware sherds
1hard paste porcelain sherd
1pearlware sherd
Glass
16bottle/jar, automatic bottle machine (ABM) fragments
3bottle/jar, lime soda fragments
3windowpane lime soda fragments
2unidentifiedjar fragments
1bottle, automatic bottle machine (ABM) fragment
1unidentified fragment
Metal
2unidentified nails/fragments
2unidentified ferrous metal fragments
Miscellaneous
2coal fragments

Summary of Specimens Observed, Not Collected:

No Data

Current Curation Repository: Browning & Associates, Hartfield, VA
Permanent Curation Repository: DHR
Field Notes: Yes
Field Notes Repository: DHR
Photographic Media: Digital
Survey Reports: Yes
Survey Report Information:

2019 Rose, J. Craig and Lyle Browning
"Green Ridge, Phase IB Cultural Resources Investigation", Browning & Associates, LTD. Hartfield, Virginia.

Survey Report Repository: DHR

DHR Library Reference Number: No Data

Significance Statement: 2018 Browning: The site is within the overall area of Clinton which was an African-American Reconstruction and later era community. According to local individuals, African-Americans essentially homesteaded "back 40" type lands that were fairly exhausted by agricultural practices and erected homesteads upon them. These were subsistence level farms.

2019 Rose: The Frog Site (44CM0137) is visible in the 1947 and 1958 aerial images and includes the remains of a late 19th/early 20th century dwelling. The southern portion of 44CM0137 has been destroyed by recent logging activities and while new deposits were identified in a less disturbed portion of the ridge during the STP survey, all finds were recovered from plowed soil horizons.

Surveyor's Eligibility Recommendations: Recommended Not Eligible

Surveyor's NR Criteria Recommendations, : No Data

Surveyor's NR Criteria Considerations: No Data

Event Type: Archaeological Assessment

Project Staff/Notes:

No Data

Project Review File Number: No Data

Sponsoring Organization: No Data

Organization/Company: Browning & Associates, LTD

Investigator: Lyle Browning

Survey Date: 10/1/2018

Survey Description:

2018 Browning: visual examination of impact area, 2018

Current Land Use	Date of Use	Comments
Forest	10/2/2018 12:00:00 AM	2018 Browning: The site is in cutover timber with a sparse artifact scatter.

Threats to Resource: Development

Site Conditions: Surface Deposits Present But Subsurface Not Tested

Survey Strategies: Observation

Specimens Collected: No

Specimens Observed, Not Collected: Yes

Artifacts Summary and Diagnostics:

No Data

Summary of Specimens Observed, Not Collected:

2018 Browning: glass "frog" for flower arrangement, hotelware coffee cup ceramics.

Current Curation Repository: No Data

Permanent Curation Repository: No Data

Field Notes: No

Field Notes Repository: No Data

Photographic Media: Digital

Survey Reports: Yes

Survey Report Information:

Green Ridge Landfill, Phase IA Cultural Resources Evaluation, Browning & Associates, LTD. 2018

Survey Report Repository: DHR

DHR Library Reference Number: No Data

Significance Statement: 2018 Browning: The site is within the overall area of Clinton which was an African-American Reconstruction and later era community. According to local individuals, African-Americans essentially homesteaded "back 40" type lands that were fairly exhausted by agricultural practices and erected homesteads upon them. These were subsistence level farms.

Surveyor's Eligibility Recommendations: Recommended for Further Survey

Surveyor's NR Criteria Recommendations, : No Data

Surveyor's NR Criteria Considerations: No Data

Snapshot

Date Generated: June 04, 2020

Site Name: Chimney in Field
Site Classification: Terrestrial, open air
Year(s): No Data
Site Type(s): Dwelling, single
Other DHR ID: No Data
Temporary Designation: Site 5

Site Evaluation Status

DHR Staff: Potentially Eligible

Locational Information

USGS Quad: WHITEVILLE
County/Independent City: Cumberland (County)
Physiographic Province: Piedmont
Elevation: 335
Aspect: Facing Southwest
Drainage: James
Slope: 0 - 2
Acreage: 0.440
Landform: Ridge Finger
Ownership Status: Private
Government Entity Name: No Data

Site Components

Component 1

Category: Domestic
Site Type: Dwelling, single
Cultural Affiliation: African American
DHR Time Period: Antebellum Period, Civil War, Reconstruction and Growth, The New Dominion, World War I to World War II
Start Year: No Data
End Year: No Data
Comments: October 2018 Browning: The site represents as a mud-mortared stone chimney in a cut-over timbered area with a single dead tree. The chimney has an iron bar at the top of the fireplace.

The site appears to be a slave quarters/Free Negro/Post-Bellum African-American domestic structure without substantial attribution and awaiting confirmation.

July 2019 Rose: Twenty STPs were excavated within and around the site boundary, soil profiles within the site boundary retain a high degree of stratigraphic integrity; however, none produced evidence of historic activity.
Following the STP survey, a metal detector survey was undertaken in an effort to provide evidence of site activities. The metal detector survey area extended approximately 125 feet north to south by 100 feet east to west and identified a general scatter of metal objects across most of the survey area, with two dense concentrations in the central portion of the site. The larger concentration surrounded the chimney and likely represents the location of the former structure.
No structure is visible in this location in the 1947 or 1958 aerial photographs. Considerable quantities of melted glass in the vicinity of the chimney may indicate the structure burned, prior to 1947.

Bibliographic Information

Bibliography:

2019 Rose, J. Craig and Lyle Browning
Phase IB Cultural Resources Survey of the Green Ridge Property, Cumberland County, Virginia

Informant Data:

No Data

CRM Events

Event Type: DHR Staff: Potentially Eligible

DHR ID: 44CM0138
Staff Name: Roger Kirchen
Event Date: 4/30/2020
Staff Comment 2019-0180

Event Type: Survey:Phase I

Project Staff/Notes:

Craig Rose-Principal Investigator
Lyle Browning-Project Manager
C. Neil Manson-Historic Researcher
Jorge Quitana - Field Archaeologist
Mike Johnson - Field Archaeologist
Emery Bencini - Field Archaeologist
Steve Rann - Field Archaeologist

Project Review File Number: No Data
Sponsoring Organization: No Data
Organization/Company: Dominion Research Group
Investigator: Craig Rose
Survey Date: 3/4/2019
Survey Description:

Phase I archaeological survey of a 1,200 acre property in Cumberland County, Virginia

Current Land Use	Date of Use	Comments
Forest	7/1/2019 12:00:00 AM	Recently logged.

Threats to Resource: Development
Site Conditions: Surface Deposits Present And With Subsurface Integrity
Survey Strategies: Historic Map Projection, Metal Detection, Observation, Subsurface Testing
Specimens Collected: Yes
Specimens Observed, Not Collected: No
Artifacts Summary and Diagnostics:

Ceramics
2whiteware
1hard paste porcelain
1pearlware
1stoneware
Glass
17unidentifiedglass
8windowpane, lime soda
10unidentified,lime soda
6bottle/jar, automatic bottle machine (ABM)
2tableware
1cannister
1bottle/jar, unidentified
1bottle, duraglas
Metal
76wire nails
8wire
8cut nails
5cast iron
5unidentified ferrous metal
3unidentified non-ferrous metal
2staples
2steamer trunk corner guards
2unidentified nails
1spoon
1strap hinge
1enamelwarepot lid
1hinge
1door lock case

1boot spur
1eye bolt
1safety pin
Miscellaneous
2unidentified fragments
1bone fragment

Summary of Specimens Observed, Not Collected:

No Data

Current Curation Repository: Browning & Associates, Harfield, VA

Permanent Curation Repository: DHR

Field Notes: Yes

Field Notes Repository: DHR

Photographic Media: Digital

Survey Reports: Yes

Survey Report Information:

2019 Rose, J. Craig and Lyle Browning
"Green Ridge, Phase IB Cultural Resources Investigation", Browning & Associates, LTD. Hartfield, Virginia.

Survey Report Repository: DHR

DHR Library Reference Number: No Data

Significance Statement: 2018 Browning: The site is within the overall area of Clinton which was an African-American Reconstruction and later era community. According to local individuals, African-Americans essentially homesteaded "back 40" type lands that were fairly exhausted by agricultural practices and erected homesteads upon them. These were subsistence level farms. The site is in a cutover timber area with nearly zero surface visibility and thick weed growth precluding much examination.

2019 Rose: Site 44CM0138 includes a localized surface scatter of melted glass and a partially collapsed stone chimney. Shovel testing found an intact soil profile, but produced no evidence of the historic occupation. A subsequent metal detector survey identified a general scatter of artifacts between the chimney and a large dead tree that likely marked the limits of the yard; and two metal concentrations, one likely identifies the location of the former dwelling. Site 44CM0138 includes the remains of a 19th/20th century dwelling and retains a high degree of stratigraphic integrity.

Surveyor's Eligibility Recommendations: Recommended Potentially Eligible

Surveyor's NR Criteria Recommendations, : D

Surveyor's NR Criteria Considerations: No Data

Event Type: Archaeological Assessment

Project Staff/Notes:

No Data

Project Review File Number: No Data

Sponsoring Organization: No Data

Organization/Company: Browning & Associates, LTD

Investigator: Lyle Browning

Survey Date: 10/1/2018

Survey Description:

2018 Browning: visual examination of impact area, 2018

Current Land Use	Date of Use	Comments
Forest	10/2/2018 12:00:00 AM	*No Data*

Threats to Resource: Development

Site Conditions: Surface Deposits Present But Subsurface Not Tested

Survey Strategies: Informant, Observation

Specimens Collected: No

Specimens Observed, Not Collected: No

Artifacts Summary and Diagnostics:

No Data

Summary of Specimens Observed, Not Collected:

No Data

Current Curation Repository:	No Data
Permanent Curation Repository:	No Data
Field Notes:	No
Field Notes Repository:	No Data
Photographic Media:	Digital
Survey Reports:	Yes
Survey Report Information:	
Green Ridge Landfill, Phase IA Cultural Resources Evaluation, Browning & Associates, LTD. 2018	
Survey Report Repository:	DHR
DHR Library Reference Number:	No Data
Significance Statement:	2018 Browning: The site is within the overall area of Clinton which was an African-American Reconstruction and later era community. According to local individuals, African-Americans essentially homesteaded "back 40" type lands that were fairly exhausted by agricultural practices and erected homesteads upon them. These were subsistence level farms. The site is in a cutover timber area with nearly zero surface visibility and thick weed growth precluding much examination.
Surveyor's Eligibility Recommendations:	Recommended for Further Survey
Surveyor's NR Criteria Recommendations, :	No Data
Surveyor's NR Criteria Considerations:	No Data

Snapshot

Date Generated: June 04, 2020

Site Name: Periwinkle Patch/Hobson Mansion
Site Classification: Terrestrial, open air
Year(s): No Data
Site Type(s): Dwelling, single
Other DHR ID: No Data
Temporary Designation: Site 6

Site Evaluation Status

DHR Staff: Potentially Eligible

Locational Information

USGS Quad: TRENHOLM
County/Independent City: Cumberland (County)
Physiographic Province: No Data
Elevation: 355
Aspect: Facing South
Drainage: James
Slope: 0 - 2
Acreage: 0.380
Landform: Knoll
Ownership Status: Private
Government Entity Name: No Data

Site Components

Component 1

Category: Domestic
Site Type: Dwelling, single
Cultural Affiliation: Euro-American
DHR Time Period: Antebellum Period, Civil War, Early National Period, Reconstruction and Growth, The New Dominion, World War I to World War II
Start Year: No Data
End Year: No Data
Comments: October 2018 Browning: The site represents as an extensive vinca minor patch that covers a large rectangular cellar hole north of the logging road that is the current access.

July 2019 Rose: Eighteen STPs were excavated in and around the site boundary. The typical soil profile included a Fill layer above sterile subsoil. It is unclear if the Fill represents occupation or demolition of the dwelling. Numerous brick fragments and window glass fragments and unidentified ferrous metal fragments were recovered from 5 positive STPs. Site 44CM0139 is interpreted as the remains of a 19th/20th century dwelling. No structure is visible in this location in the 1947 or 1958 aerial images and may indicate the structure was abandoned prior to that time.

Bibliographic Information

Bibliography:

2019 Rose, J. Craig and Lyle Browning
Phase IB Cultural Resources Investigation of the Green Ridge Property, Cumberland County, Virginia

Informant Data:

No Data

CRM Events

Event Type: DHR Staff: Potentially Eligible

DHR ID: 44CM0139
Staff Name: Roger Kirchen
Event Date: 4/30/2020
Staff Comment 2019-0180

Event Type: Survey:Phase I

Project Staff/Notes:

Craig Rose-Principal Investigator
Lyle Browning-Project Manager
C. Neil Manson-Historic Researcher
Jorge Quitana - Field Archaeologist
Mike Johnson - Field Archaeologist
Emery Bencini - Field Archaeologist
Steve Rann - Field Archaeologist

Project Review File Number: No Data
Sponsoring Organization: No Data
Organization/Company: Dominion Research Group
Investigator: Craig Rose
Survey Date: 3/4/2019
Survey Description:

Phase I archaeological survey of a 1,200 acre property in Cumberland County, Virginia

Current Land Use	Date of Use	Comments
Forest	7/1/2019 12:00:00 AM	Planted pine.

Threats to Resource: Development
Site Conditions: Surface Deposits Present And With Subsurface Integrity
Survey Strategies: Historic Map Projection, Observation, Subsurface Testing
Specimens Collected: Yes
Specimens Observed, Not Collected: No
Artifacts Summary and Diagnostics:

Glass
4windowpane, lime soda fragments
Metal
14unidentified ferrous metal fragments
1unidentified non-ferrous metal fragments
Miscellaneous
75brick fragments

Summary of Specimens Observed, Not Collected:

No Data

Current Curation Repository: Browning & Associates, Hartfield, VA
Permanent Curation Repository: DHR
Field Notes: Yes
Field Notes Repository: DHR
Photographic Media: Digital
Survey Reports: Yes
Survey Report Information:

2019 Rose, J. Craig and Lyle Browning
"Green Ridge, Phase IB Cultural Resources Investigation", Browning & Associates, LTD. Hartfield, Virginia.

Survey Report Repository: DHR
DHR Library Reference Number: No Data
Significance Statement: 2018 Browning: The site is represented by an extensive vinca patch that covers the site surface as well as the large rectangular cellar. The terrain is suitable for additional structures. This site is probably a major homestead in the area and given the size of the

cellar, would be a large house.

2019 Rose: Site 44CM0139 includes the remains of a dwelling, possibly constructed of brick. Surface features include a rectangular cellar hole, partially filled with brick rubble and a smaller depression that might be the remains of an ice house. During the STP survey, artifacts were recovered from a fill layer and the site is expected to retain a high degree of stratigraphic integrity.

Surveyor's Eligibility Recommendations: Recommended Potentially Eligible
Surveyor's NR Criteria Recommendations, : D
Surveyor's NR Criteria Considerations: No Data

Event Type: Archaeological Assessment

Project Staff/Notes:
No Data
Project Review File Number: No Data
Sponsoring Organization: No Data
Organization/Company: Browning & Associates, LTD
Investigator: Lyle Browning
Survey Date: 10/1/2018
Survey Description:
2018 Browning: visual examination of impact area, 2018

Current Land Use	Date of Use	Comments
Forest	8/28/2018 12:00:00 AM	*No Data*

Threats to Resource: Development
Site Conditions: Intact Cultural Level
Survey Strategies: Observation
Specimens Collected: No
Specimens Observed, Not Collected: No
Artifacts Summary and Diagnostics:
No Data
Summary of Specimens Observed, Not Collected:
No Data
Current Curation Repository: No Data
Permanent Curation Repository: No Data
Field Notes: No
Field Notes Repository: No Data
Photographic Media: Digital
Survey Reports: Yes
Survey Report Information:
Green Ridge Landfill, Phase IA Cultural Resources Evaluation, Browning & Associates, LTD. 2018
Survey Report Repository: DHR
DHR Library Reference Number: No Data
Significance Statement: 2018 Browning: The site is represented by an extensive vinca patch that covers the site surface as well as the large rectangular cellar. The terrain is suitable for additional structures. This site is probably a major homestead in the area and given the size of the cellar, would be a large house.
Surveyor's Eligibility Recommendations: Recommended for Further Survey
Surveyor's NR Criteria Recommendations, : No Data
Surveyor's NR Criteria Considerations: No Data

Snapshot

Date Generated: June 04, 2020

Site Name: Chimney in the Woods
Site Classification: Terrestrial, open air
Year(s): No Data
Site Type(s): Dwelling, single
Other DHR ID: No Data
Temporary Designation: Site 7

Site Evaluation Status

Not Evaluated

Locational Information

USGS Quad: TRENHOLM
County/Independent City: Cumberland (County)
Physiographic Province: Piedmont
Elevation: 305
Aspect: No Data
Drainage: James
Slope: 0 - 2
Acreage: 0.240
Landform: Ridge Spur
Ownership Status: Private
Government Entity Name: No Data

Site Components

Component 1

Category: Domestic
Site Type: Dwelling, single
Cultural Affiliation: Indeterminate
DHR Time Period: Reconstruction and Growth, The New Dominion, World War I to World War II
Start Year: No Data
End Year: No Data
Comments: 2018 Browning: The site has periwinkle surrounding it. There are two fireplaces, one for each floor. The stack walls are fieldstone and straight. The top of the chimney has Common Bond brickwork. The interior walls around the fireplaces were plastered. Each fireplace has an iron bar across the top supporting the chimney.

Bibliographic Information

Bibliography:

No Data

Informant Data:

No Data

CRM Events

Event Type: DHR Staff: Other

DHR ID: 44CM0140
Staff Name: Roger Kirchen
Event Date: 4/30/2020
Staff Comment 2019-0180. Remains unevaluated.

Event Type: Other

Project Staff/Notes:
No Data
Project Review File Number: No Data
Sponsoring Organization: No Data
Organization/Company: Browning & Associates, LTD
Investigator: Lyle Browning
Survey Date: 12/4/2018
Survey Description:
2018 Browning: Visual examination of terrain to locate archaeological sites for a Phase IA Report. No subsurface testing was performed at this level.

Current Land Use	Date of Use	Comments
Dwelling, single	12/4/2018 12:00:00 AM	2018 Browning: The site has periwinkle on the ground with a 2 story fieldstone chimney with common bond top.

Threats to Resource: Development
Site Conditions: Surface Deposits Present But Subsurface Not Tested
Survey Strategies: Observation
Specimens Collected: No
Specimens Observed, Not Collected: No
Artifacts Summary and Diagnostics:
No Data
Summary of Specimens Observed, Not Collected:
No Data
Current Curation Repository: No Data
Permanent Curation Repository: No Data
Field Notes: No
Field Notes Repository: No Data
Photographic Media: Digital
Survey Reports: Yes
Survey Report Information:
Green Ridge Landfill, Phase IA Cultural Resources Evaluation, Browning & Associates, LTD, 2018
Survey Report Repository: DHR
DHR Library Reference Number: No Data
Significance Statement: 2018 Browning: The site occupied the side of a flattish landform, possibly indicative of subsistence farming. The site is in an area that was historically African-American after the Civil War and may be related to Reconstruction Era subsistence farming.
Surveyor's Eligibility Recommendations: Recommended for Further Survey
Surveyor's NR Criteria Recommendations, : No Data
Surveyor's NR Criteria Considerations: No Data

Snapshot

Date Generated: June 04, 2020

Site Name: Jesse Parker
Site Classification: Terrestrial, open air
Year(s): No Data
Site Type(s): Farmstead
Other DHR ID: No Data
Temporary Designation: Site 8

Site Evaluation Status

DHR Staff: Potentially Eligible

Locational Information

USGS Quad: WHITEVILLE
County/Independent City: Cumberland (County)
Physiographic Province: Piedmont
Elevation: 315
Aspect: Facing South
Drainage: James
Slope: 2 - 6
Acreage: 2.870
Landform: Ridge Spur
Ownership Status: Private
Government Entity Name: No Data

Site Components

Component 1

Category: Domestic
Site Type: Farmstead
Cultural Affiliation: African American, Euro-American
DHR Time Period: Civil War, Reconstruction and Growth, The New Dominion, World War I to World War II
Start Year: No Data
End Year: No Data
Comments: December 2018 Browning: This structural complex corresponds with the Jesse Parker farm/plantation shown on the Cumberland County 1864 Gilmer Map. Parker owned 6 slaves in 1850.

July 2019 Rose: Visual inspection of the mapped site location revealed the collapsed remains of a frame dwelling (Structure 1), collapsed outbuilding (Structure 2), and the foundation and possible chimney base of a third structure (Structure 3). Structures 1 and 2 are clearly visible in the 1947 and 1958 aerial images of the project vicinity.
Seventy five STPs were excavated at site 44CM0141. Eighty-eight artifacts were recovered from 15 positive STPs. Finds suggest Structure 2 is the remains of a barn. Artifacts collected in the vicinity of Structure 3 suggest agricultural activities; however, the foundation and possible chimney base observed in this location during the visual inspection may indicate the presence of a tenant farmer or slave quarters.

Bibliographic Information

Bibliography:

2019 Rose, J. Craig and Lyle Browning
Phase IB Cultural Resources Investigation of the Green Ridge Property, Cumberland County, Virginia

Informant Data:

No Data

CRM Events

Event Type: DHR Staff: Potentially Eligible

DHR ID: 44CM0141
Staff Name: Roger Kirchen
Event Date: 4/30/2020
Staff Comment 2019-0180

Event Type: Survey:Phase I

Project Staff/Notes:

Craig Rose-Principal Investigator
Lyle Browning-Project Manager
C. Neil Manson-Historic Researcher
Jorge Quitana - Field Archaeologist
Mike Johnson - Field Archaeologist
Emery Bencini - Field Archaeologist
Steve Rann - Field Archaeologist

Project Review File Number: No Data
Sponsoring Organization: No Data
Organization/Company: Dominion Research Group
Investigator: Craig Rose
Survey Date: 3/4/2019
Survey Description:

Phase I archaeological survey of a 1,200 acre property in Cumberland County, Virginia

Current Land Use	Date of Use	Comments
Forest	7/1/2019 12:00:00 AM	Densely overgrown yard and pasture.

Threats to Resource: Development
Site Conditions: Surface Deposits Present And With Subsurface Integrity
Survey Strategies: Historic Map Projection, Observation, Subsurface Testing
Specimens Collected: Yes
Specimens Observed, Not Collected: No
Artifacts Summary and Diagnostics:

Ceramics
1pearlware sherd
Glass
24windowpane, lime soda fragments
12bottle/jar, automatic bottle machine (ABM) fragments
7unidentifiedfragments
3bottle, contact mold fragments
1jar fragment
1bottle/jar, lime soda fragment
Metal
15unidentified ferrous metal fragments
10unidentified nails/fragments
6wire nails/fragments
2unidentified non-ferrous metal fragments
1endgate rod
1spike
Miscellaneous
4concrete fragments

Summary of Specimens Observed, Not Collected:

No Data

Current Curation Repository: Browning & Associates, Hartfield, VA
Permanent Curation Repository: DHR
Field Notes: Yes
Field Notes Repository: DHR
Photographic Media: Digital

Survey Reports: Yes

Survey Report Information:

2019 Rose, J. Craig and Lyle Browning
"Green Ridge, Phase IB Cultural Resources Investigation", Browning & Associates, LTD. Hartfield, Virginia.

Survey Report Repository: DHR

DHR Library Reference Number: No Data

Significance Statement: 2018 Browning: The site corresponds to the Jesse Parker plantation on the 1864 Gilmer map. The 1955 VDOT aerial shows 3 probable houses with open space for pasturage and trails leading into forest. The site survives as a late 19th to 20th century porched structure with a stone single side chimney stub. All observed nails were wire. The rear of the structure sits on stone piers. Another stone founded structure is located to the east. This structural complex appear to be the basis for the Jesse Parker farm for which there are production records, slave ownership documentation and so forth from prior to the Civil War and there are tax and census records for Reconstruction through the present that can illuminate a small farm that had the family and 6 slaves to work it.

2019 Rose: A dwelling and associated outbuildings are visible in the location of site 44CM0141 in the 1947 and 1958 aerial photographs of the project vicinity and the dwelling is listed with the name “Jesse Parker” on Gilmer’s 1864 map. This site includes the remains of a collapsed frame dwelling, a collapsed barn, and stone foundation. Surface features indicate the site remains relatively undisturbed.

Surveyor's Eligibility Recommendations: Recommended Potentially Eligible

Surveyor's NR Criteria Recommendations, : D

Surveyor's NR Criteria Considerations: No Data

Event Type: Other

Project Staff/Notes:

No Data

Project Review File Number: No Data

Sponsoring Organization: No Data

Organization/Company: Browning & Associates, LTD

Investigator: Lyle Browning

Survey Date: 12/4/2018

Survey Description:

2018 Browning: Visual examination of a structural complex probably descended from Jesse Parker. Complex has very large oak trees, 1 fallen structure of late 19th century appearance but probably added to an earlier structure with a stone chimney. Also present is a stone foundation.

Current Land Use	Date of Use	Comments
Forest	12/4/2018 12:00:00 AM	2018 Browning: Site has been allowed to revert to forest with dense sapling growth amidst large old trees.

Threats to Resource: Development

Site Conditions: Surface Deposits Present And With Subsurface Integrity

Survey Strategies: Historic Map Projection, Observation

Specimens Collected: No

Specimens Observed, Not Collected: No

Artifacts Summary and Diagnostics:

No Data

Summary of Specimens Observed, Not Collected:

No Data

Current Curation Repository: No Data

Permanent Curation Repository: No Data

Field Notes: No

Field Notes Repository: No Data

Photographic Media: Digital

Survey Reports: Yes

Survey Report Information:

Green Ridge Landfill, Phase IA Cultural Resources Evaluation, Cumberland County, VA. Browning & Associates, LTD, 2018

Survey Report Repository: DHR

DHR Library Reference Number: No Data

Significance Statement:	2018 Browning: The site corresponds to the Jesse Parker plantation on the 1864 Gilmer map. The 1955 VDOT aerial shows 3 probable houses with open space for pasturage and trails leading into forest. The site survives as a late 19th to 20th century porched structure with a stone single side chimney stub. All observed nails were wire. The rear of the structure sits on stone piers. Another stone founded structure is located to the east. This structural complex appear to be the basis for the Jesse Parker farm for which there are production records, slave ownership documentation and so forth from prior to the Civil War and there are tax and census records for Reconstruction through the present that can illuminate a small farm that had the family and 6 slaves to work it.
Surveyor's Eligibility Recommendations:	Recommended for Further Survey
Surveyor's NR Criteria Recommendations, :	No Data
Surveyor's NR Criteria Considerations:	No Data

Snapshot

Date Generated: June 04, 2020

Site Name: No Data
Site Classification: Terrestrial, open air
Year(s): No Data
Site Type(s): Farmstead
Other DHR ID: No Data
Temporary Designation: 44CM00XX

Site Evaluation Status

DHR Staff: Potentially Eligible

Locational Information

USGS Quad: WHITEVILLE
County/Independent City: Cumberland (County)
Physiographic Province: Piedmont
Elevation: 350
Aspect: Facing South
Drainage: James
Slope: 0 - 2
Acreage: 1.000
Landform: Knob
Ownership Status: Private
Government Entity Name: No Data

Site Components

Component 1

Category: Domestic
Site Type: Farmstead
Cultural Affiliation: Indeterminate
DHR Time Period: Antebellum Period, Civil War, Early National Period, Reconstruction and Growth, World War I to World War II
Start Year: No Data
End Year: No Data
Comments: July 2019 Rose: The site includes the foundations of at least two structures and an associated artifact scatter that suggests an occupation dating from the early to mid 19th century. No structures are visible in this location on the 1947 and 1958 aerial photos of the project vicinity.

Twenty STPs were excavated in the area surrounding the two suspected structures. A total of eight artifacts, including whiteware, glass bottle and windowpane fragments, and nails, were recovered from the general area. Metal detection of the area between the two structures (approximately 225 feet by 100 feet) produced 514 strikes, approximately 25% were excavated. The presence of surface features and intact soil profile suggests this site retains a high degree of integrity. The assemblage recovered suggests the site includes the remains of a dwelling with an occupation possibly spanning the 18th- through the 20th- century.

Bibliographic Information

Bibliography:

2019 Rose, J. Craig and Lyle Browning
Phase IB Cultural Resources Investigation of the Green Ridge Property, Cumberland County, Virginia

Informant Data:

No Data

CRM Events

Event Type: DHR Staff: Potentially Eligible

DHR ID: 44CM0144
Staff Name: Roger Kirchen
Event Date: 4/30/2020
Staff Comment 2019-0180

Event Type: Survey:Phase I

Project Staff/Notes:

Craig Rose-Principal Investigator
Lyle Browning-Project Manager
C. Neil Manson-Historic Researcher
Jorge Quitana - Field Archaeologist
Mike Johnson - Field Archaeologist
Emery Bencini - Field Archaeologist
Steve Rann - Field Archaeologist

Project Review File Number: No Data
Sponsoring Organization: No Data
Organization/Company: Dominion Research Group
Investigator: Craig Rose
Survey Date: 3/4/2019
Survey Description:

Phase I archaeological survey of a 1,200 acre property in Cumberland County, Virginia

Current Land Use	Date of Use	Comments
Forest	7/1/2019 12:00:00 AM	Planted pine

Threats to Resource: Development
Site Conditions: Intact Cultural Level, Surface Deposits Present And With Subsurface Integrity
Survey Strategies: Metal Detection, Observation, Subsurface Testing
Specimens Collected: Yes
Specimens Observed, Not Collected: No
Artifacts Summary and Diagnostics:

Ceramics
3stoneware sherds
2whiteware sherds
1creamware sherd
1pearlware sherd
Glass
10windowpane, lime soda fragments
9jar, semi-automatic bottle machine fragments
5bottle/jar, automatic bottle machine (ABM) fragments
2bottle/jar, semi-automatic bottle machine fragments
1bottle/jar, lime soda fragment
1bottle/jar, unidentified fragment
1unidentified, melted fragment
1bottle, unidentified fragment
1bottle, automatic bottle machine (ABM) fragment
1windowpane, unidentified fragment
1bottle/jar, clear magnesium fragment
Metal
80wire nails/fragments
28unidentified ferrous metal fragments
19cast iron fragments
9horseshoe/horseshoe fragments
9unidentified nails/fragments
7strap hinges
5strap iron fragments
4sheet metal fragments
3plowshares
3cultivator shanks
3iron hoops

2steamer trunk corner guards
2wire fragments
2unidentified non-ferrous metal fragments
2cut nails
2spikes
2axe heads
1bolt
1stirrup fragment
1iron hook
1brass shotgun shell base
1hinge fragment
1non-ferrous metal tag
1wrought nail
1boot spur
1scissor fragment
1flat iron base
1pliers fragment
1door/gate latch
1wing nut
Miscellaneous
2brick fragments
2bone fragments

Summary of Specimens Observed, Not Collected:

No Data

Current Curation Repository: Browning & Associates, Hartfield, VA

Permanent Curation Repository: DHR

Field Notes: Yes

Field Notes Repository: DHR

Photographic Media: Digital

Survey Reports: Yes

Survey Report Information:

2019 Rose, J. Craig and Lyle Browning
"Green Ridge, Phase IB Cultural Resources Investigation", Browning & Associates, LTD. Hartfield, Virginia.

Survey Report Repository: DHR

DHR Library Reference Number: No Data

Significance Statement: Visual inspection of site 44CM00XX revealed the remains of two separate structures. Artifacts were recovered from a plow zone and an undisturbed fill layer at Site 44CM00XX during the STP investigation and metal detector survey. Analysis of the site assemblage suggests it includes the remains of a dwelling or domestic farmstead with an occupation possibly spanning the 18th- through the 20th- century. The soil profile encountered in the STPs nearest to the structures indicate a high degree of integrity.

Surveyor's Eligibility Recommendations: Recommended Potentially Eligible

Surveyor's NR Criteria Recommendations, : D

Surveyor's NR Criteria Considerations: No Data

Snapshot

Date Generated: June 04, 2020

Site Name: No Data
Site Classification: Terrestrial, open air
Year(s): No Data
Site Type(s): Farmstead
Other DHR ID: No Data
Temporary Designation: 44CM06XX

Site Evaluation Status

DHR Staff: Potentially Eligible

Locational Information

USGS Quad: TRENHOLM
County/Independent City: Cumberland (County)
Physiographic Province: Piedmont
Elevation: 345
Aspect: Facing West
Drainage: James
Slope: 2 - 6
Acreage: 0.680
Landform: Ridge Spur
Ownership Status: Private
Government Entity Name: No Data

Site Components

Component 1

Category: Domestic
Site Type: Farmstead
Cultural Affiliation: Indeterminate
DHR Time Period: Antebellum Period, Civil War, Colony to Nation, Early National Period, Reconstruction and Growth, World War I to World War II
Start Year: No Data
End Year: No Data
Comments: July 2019 Rose: This site was identified based on the presence of a pearlware sherd observed on the ground surface. Visual inspection and metal detection of adjacent areas exposed during an exploratory cemetery identification survey identified two additional pearlware sherds, a decorative glass bead, cut nails, and a wrought nail. No other evidence of the site was observed during visual inspection of the surrounding area, and no structures are visible in this location on the 1947 or 1958 aerial images.

Bibliographic Information

Bibliography:

No Data

Informant Data:

No Data

CRM Events

Event Type: DHR Staff: Potentially Eligible

DHR ID: 44CM0145
Staff Name: Roger Kirchen
Event Date: 4/30/2020
Staff Comment 2019-0180

Event Type: Survey:Phase I

Project Staff/Notes:

Craig Rose-Principal Investigator
Lyle Browning-Project Manager
C. Neil Manson-Historic Researcher
Jorge Quitana - Field Archaeologist
Mike Johnson - Field Archaeologist
Emery Bencini - Field Archaeologist
Steve Rann - Field Archaeologist

Project Review File Number: No Data
Sponsoring Organization: No Data
Organization/Company: Dominion Research Group
Investigator: Craig Rose
Survey Date: 3/4/2019
Survey Description:

Phase I archaeological survey of a 1,200 acre property in Cumberland County, Virginia

Current Land Use	Date of Use	Comments
Forest	7/1/2019 12:00:00 AM	Planted pine

Threats to Resource: Development
Site Conditions: Surface Deposits Present But Subsurface Not Tested
Survey Strategies: Metal Detection, Observation
Specimens Collected: Yes
Specimens Observed, Not Collected: Yes
Artifacts Summary and Diagnostics:

Ceramics
3pearlware sherds
Glass
1crenulated glass bead
Metal
10cut nails/fragments
2unidentified ferrous metal fragments
1wrought nail
1cast iron fragment
1horseshoe

Summary of Specimens Observed, Not Collected:

1 stoneware

Current Curation Repository: Browning & Associates, Hartfield, VA
Permanent Curation Repository: DHR
Field Notes: Yes
Field Notes Repository: DHR
Photographic Media: Digital
Survey Reports: Yes
Survey Report Information:

2019 Rose, J. Craig and Lyle Browning
"Green Ridge, Phase IB Cultural Resources Investigation", Browning & Associates, LTD. Hartfield, Virginia.

Survey Report Repository: DHR
DHR Library Reference Number: No Data

Significance Statement:	This site was identified based on a pearlware sherd discovered in the trench backfill following the cemetery identification survey. The functional variety of the assemblage and temporally diagnostic artifacts recovered suggest this site includes the remains of a dwelling, possibly dating from the early nineteenth century. Additional excavations are needed to adequately define the horizontal extent and integrity of sub-surface deposits.
Surveyor's Eligibility Recommendations:	Recommended for Further Survey
Surveyor's NR Criteria Recommendations, :	D
Surveyor's NR Criteria Considerations:	No Data

Property Information

Property Names

Name Explanation	Name
Historic	Melrose

Property Addresses

Current - Route 654 (Pinegrove Road)

Property Evaluation Status

Not Evaluated

County/Independent City(s): Cumberland (County)
Incorporated Town(s): *No Data*
Zip Code(s): *No Data*
Magisterial District(s): *No Data*
Tax Parcel(s): *No Data*
USGS Quad(s): *No Data*

Additional Property Information

Architecture Setting: *No Data*
Acreage: *No Data*
Site Description:

No Data

Surveyor Assessment:

No Data

Surveyor Recommendation: *No Data*

Primary Resource Information

Resource Category: Domestic
Resource Type: Single Dwelling
NR Resource Type: Building
Historic District Status: *No Data*
Date of Construction: Ca 1850
Date Source: Site Visit
Historic Time Period: Antebellum Period (1830 - 1860)
Historic Context(s): Domestic, Subsistence/Agriculture
Other ID Number: *No Data*
Architectural Style: Greek Revival
Form: *No Data*
Number of Stories: 2.0
Condition: Excellent
Interior Plan: Central Passage, Double Pile
Threats to Resource: None Known

Architectural Description:

This imposing brick dwelling is designed in a Greek Revival style and features a hipped roof and two interior chimneys. A one-story end wall porch with square Doric columns extends across the front elevation. The window and door surrounds, typical of the Greek Revival style, have pedimented caps. In addition, the front door is flanked by sidelights with a transom above, all below a pedimented surround.

Interior Description: The interior consists of a wide, central stair hall flanked by two front parlors; the two rear rooms are separated from the front of the house by a wood "screen" divider in the central passage. The stair is built against the side wall and has vertical board siding and turned balusters. The divider screen has Greek Revival detailing with a pedimented top and panelled side walls. Modern louvred screens fill in the opening. The original 4"-side floor boards are found in the front parlor, while narrower floorboards are in the central hall and dining room. Rather heavy mantels with an oversized egg and dart motif are found in almost all of the rooms.

Secondary Resource Information

Secondary Resource #1

Resource Category: Domestic
Resource Type: Kitchen
Date of Construction: 1850Ca
Date Source: Site Visit
Historic Time Period: Antebellum Period (1830 - 1860)
Historic Context(s): Domestic, Subsistence/Agriculture
Architectural Style: Other
Form: *No Data*
Condition: Fair
Threats to Resource: None Known
Architectural Description:

Clad in weatherboard, this summer kitchen features a hipped roof and an end chimney.

Interior Description: The interior consists of two rooms separated by an interior wall. The larger room opens directly off of the exterior door, while the smaller room is reached through the large room. A stove flue is located in the larger room.

Interior Plan: One-room
Number of Stories: 1

Secondary Resource #2

Resource Category: Agriculture/Subsistence
Resource Type: Barn
Date of Construction: 1920Ca
Date Source: Site Visit
Historic Time Period: World War I to World War II (1917 - 1945)
Historic Context(s): Domestic, Subsistence/Agriculture
Architectural Style: Other
Form: *No Data*
Condition: Good
Threats to Resource: Vacant
Architectural Description:

This barn is a typical gambrel roof barn of frame construction from the ca. 1920 period. It is clad with vertical board walls and has a standing seam metal roof covering. A ventilator projects from the top of the roof.

Number of Stories: 2

Secondary Resource #3

Resource Category: Domestic
Resource Type: Single Dwelling
Date of Construction: 1890Ca
Date Source: Site Visit
Historic Time Period: Reconstruction and Growth (1866 - 1916)
Historic Context(s): Domestic, Subsistence/Agriculture
Architectural Style: Other
Form: *No Data*
Condition: Good
Threats to Resource: None Known
Architectural Description:

This is a two-story, three-bay frame dwelling with interior end chimneys and a side facing gable roof. A one-story, one-bay porch is located on the central bay of the front elevation.

Number of Stories: 2

Secondary Resource #4

Resource Category: Domestic
Resource Type: Garage
Date of Construction: Ca
Date Source: *No Data*
Historic Time Period: World War I to World War II (1917 - 1945)
Historic Context(s): Domestic, Subsistence/Agriculture
Architectural Style: *No Data*
Form: *No Data*
Condition: *No Data*
Threats to Resource: *No Data*
Architectural Description:
No Data
Number of Stories: *No Data*

Secondary Resource #5

Resource Category: DSS Legacy
Resource Type: Shed
Date of Construction: Ca
Date Source: *No Data*
Historic Time Period: World War I to World War II (1917 - 1945)
Historic Context(s): Domestic, Subsistence/Agriculture
Architectural Style: *No Data*
Form: *No Data*
Condition: *No Data*
Threats to Resource: *No Data*
Architectural Description:
No Data
Number of Stories: *No Data*

Secondary Resource #6

Resource Category: DSS Legacy
Resource Type: Shed
Date of Construction: Ca
Date Source: *No Data*
Historic Time Period: World War I to World War II (1917 - 1945)
Historic Context(s): Domestic, Subsistence/Agriculture
Architectural Style: *No Data*
Form: *No Data*
Condition: *No Data*
Threats to Resource: *No Data*
Architectural Description:
No Data
Number of Stories: *No Data*

Secondary Resource #7

Resource Category: DSS Legacy
Resource Type: Shed
Date of Construction: Ca
Date Source: *No Data*
Historic Time Period: World War I to World War II (1917 - 1945)
Historic Context(s): Domestic, Subsistence/Agriculture
Architectural Style: *No Data*
Form: *No Data*

Condition: *No Data*
Threats to Resource: *No Data*
Architectural Description:
No Data
Number of Stories: *No Data*

Secondary Resource #8

Resource Category: DSS Legacy
Resource Type: Shed
Date of Construction: Ca
Date Source: *No Data*
Historic Time Period: World War I to World War II (1917 - 1945)
Historic Context(s): Domestic, Subsistence/Agriculture
Architectural Style: *No Data*
Form: *No Data*
Condition: *No Data*
Threats to Resource: *No Data*
Architectural Description:
No Data
Number of Stories: *No Data*

Historic District Information

Historic District Name: *No Data*
Local Historic District Name: *No Data*
Historic District Significance: *No Data*

CRM Events

Event Type: Survey:Phase II/Intensive

Project Review File Number: *No Data*
Investigator: Traceries
Organization/Company: Unknown (DSS)
Photographic Media: *No Data*
Survey Date: 4/1/1994
Dhr Library Report Number: *No Data*
Project Staff/Notes:
No Data
Project Bibliographic Information:
Record Type: DHR File Data
Bibliographic Notes: Survey, 1973

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: *No Data*
Investigator: Cary, Mary C.
Organization/Company: Unknown (DSS)
Photographic Media: *No Data*
Survey Date: 7/18/1973
Dhr Library Report Number: *No Data*
Project Staff/Notes:

No Data

Project Bibliographic Information:

Record Type: DHR File Data
Bibliographic Notes: Survey, 1973

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number:	*No Data*
Investigator:	WPA of Virginia
Organization/Company:	Unknown (DSS)
Photographic Media:	*No Data*
Survey Date:	10/15/1936
Dhr Library Report Number:	*No Data*

Project Staff/Notes:

WPA survey

Project Bibliographic Information:

Record Type: DHR File Data
Bibliographic Notes: Survey, 1973

Bibliographic Information

Bibliography:

No Data

Property Notes:

Name: Mrs. Lucy Martin

Property Information

Property Names

Name Explanation	Name
Function/Location	House, 192 Miller Lane

Property Addresses

Current - 192 Miller Lane

Property Evaluation Status

DHR Staff: Not Eligible

County/Independent City(s): Cumberland (County)
Incorporated Town(s): *No Data*
Zip Code(s): 23040
Magisterial District(s): *No Data*
Tax Parcel(s): 45-A-2-A
USGS Quad(s): TRENHOLM

Additional Property Information

Architecture Setting: Rural
Acreage: 1
Site Description:

2019 Browning: The property is a small modular home built on 4x4 posts. It has a series of vehicles, parts and other items stored in the side yard. The yard has grass but no ornamentals.

Surveyor Assessment:

2019 Browning: The property is a modular home, built in 1988 and is well maintained. It has a wrap-around deck. Otherwise it is of a common type of manufactured home designed for low-income families to afford comfortable housing. It has no outstanding architectural characteristics.

Surveyor Recommendation: Recommended Not Eligible

Ownership

Ownership Category	Ownership Entity
Private	*No Data*

Primary Resource Information

Resource Category: Domestic
Resource Type: Single Dwelling
NR Resource Type: Building
Historic District Status: *No Data*
Date of Construction: 1988
Date Source: Local Records
Historic Time Period: The New Dominion (1946 - 1991)
Historic Context(s): Domestic, Settlement Patterns
Other ID Number: *No Data*
Architectural Style: Other
Form: *No Data*
Number of Stories: 1.0
Condition: Good
Interior Plan: Other
Threats to Resource: None Known
Architectural Description:

2019 Browning: The 1 story house has synthetic siding resembling saw log boards, what appear to be casement windows of 2/6 and sash windows of 4/4 on the front with a single door. The end has french doors. The deck wraps around the house from the front door where a stair accesses the deck and around the end and the back of the building. The crawlspace is covered by latticework.

Exterior Components

Component	Component Type	Material	Material Treatment
Roof	Side Gable	Shingle	*No Data*
Foundation	Post-in-ground	Wood	*No Data*
Porch	Wrap-Around	Wood	Square

Secondary Resource Information

Historic District Information

Historic District Name: *No Data*
Local Historic District Name: *No Data*
Historic District Significance: *No Data*

CRM Events

Event Type: DHR Staff: Not Eligible

DHR ID: 024-5112
Staff Name: Laura Lavernia
Event Date: 3/30/2020
Staff Comment

2019-0180

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: *No Data*
Investigator: Lyle Browning
Organization/Company: Browning & Associates, LTD
Photographic Media: Digital
Survey Date: 8/7/2019
Dhr Library Report Number: *No Data*
Project Staff/Notes:

No Data

Project Bibliographic Information:

2019, Browning & Rose. Phase I Intensive Cultural Resources Report, Green Ridge Landfill, Cumberland County, VA. Report to be filed with DHR.

Bibliographic Information

Bibliography:

No Data

Property Notes:

2019 Browning: The property is partially woods and partially yard. The property faced onto Miller Lane.

Property Information

Property Names

Name Explanation	Name
Function/Location	House, 200 Miller Lane

Property Evaluation Status

DHR Staff: Not Eligible

Property Addresses

Current - 202 Miller Lane

County/Independent City(s): Cumberland (County)
Incorporated Town(s): *No Data*
Zip Code(s): 23040
Magisterial District(s): *No Data*
Tax Parcel(s): 45-A-2-G
USGS Quad(s): TRENHOLM

Additional Property Information

Architecture Setting: Rural
Acreage: 2
Site Description:

2019 Browning: The site faces onto Miller Lane and is wooded with the house tucked to the side of the driveway such that the house is mostly invisible from the road. It has small "off the shelf" sheds in the side and back yards. A hogwire fence encloses the back yard. No decorative plantings of any sort were noted in the yard.

Surveyor Assessment:

2019 Browning: This house was built in 2007 and is of a contemporary modern style. It is stick built, semi-modular in appearance over a cinder block foundation and has an asphalt shingle roof. It has no distinguishing architectural characteristics.

Surveyor Recommendation: Recommended Not Eligible

Ownership

Ownership Category	Ownership Entity
Private	*No Data*

Primary Resource Information

Resource Category: Domestic
Resource Type: Single Dwelling
NR Resource Type: Building
Historic District Status: *No Data*
Date of Construction: 2007
Date Source: Local Records
Historic Time Period: Post Cold War (1992 - Present)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: Pre-fabricated/Manufactured Home
Number of Stories: 1.0
Condition: Excellent
Interior Plan: Other
Threats to Resource: None Known
Architectural Description:

2019 Browning: This 2007 house has a cinderblock foundation with a stick built German siding 1 story contemporary modern home that has asphalt shingle roofing. 12/12 windows are present.

Exterior Components

Component	Component Type	Material	Material Treatment
Roof	Side Gable	Asphalt	*No Data*
Structural System and Exterior Treatment	Wood Frame	Composite	Siding
Foundation	English/Raised	Concrete	Block

Secondary Resource Information

Historic District Information

Historic District Name: *No Data*
Local Historic District Name: *No Data*
Historic District Significance: *No Data*

CRM Events

Event Type: DHR Staff: Not Eligible

DHR ID: 024-5113
Staff Name: Laura Lavernia
Event Date: 3/30/2020
Staff Comment
2019-0180

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: *No Data*
Investigator: Lyle Browning
Organization/Company: Browning & Associates, LTD
Photographic Media: Digital
Survey Date: 8/7/2019
Dhr Library Report Number: *No Data*
Project Staff/Notes:
No Data
Project Bibliographic Information:
2019, Browning & Rose. Phase I Intensive Cultural Resources Report, Green Ridge Landfill, Cumberland County, VA. Report to be filed with DHR.

Bibliographic Information

Bibliography:
No Data
Property Notes:
No Data

Property Information

Property Names

Name Explanation	Name
Function/Location	House, 300 Miller Lane

Property Addresses

Current - 300 Miller Lane

Property Evaluation Status

DHR Staff: Not Eligible

County/Independent City(s): Cumberland (County)
Incorporated Town(s): *No Data*
Zip Code(s): 23040
Magisterial District(s): *No Data*
Tax Parcel(s): 38-A-6
USGS Quad(s): TRENHOLM

Additional Property Information

Architecture Setting: Rural
Acreage: 19.28
Site Description:

2019 Browning: The site has an open front lawn with a well casing, then mature trees surrounding the house with a driveway to the south. The house faces onto Miller Lane. A small shed is situated to the rear of the house. Small decorative shrubs are present, as well as potted plants.

Surveyor Assessment:

This contemporary modern house was built in 1990. It has German siding with asphalt shingles over a cinderblock foundation. There are no outstanding architectural features about the house or the surroundings. The aim of the owners appears to be to live in seclusion.

Surveyor Recommendation: Recommended Not Eligible

Ownership

Ownership Category	Ownership Entity
Private	*No Data*

Primary Resource Information

Resource Category: Domestic
Resource Type: Single Dwelling
NR Resource Type: Building
Historic District Status: *No Data*
Date of Construction: 1990
Date Source: Local Records
Historic Time Period: Post Cold War (1992 - Present)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: Other
Form: *No Data*
Number of Stories: 1.5
Condition: Excellent
Interior Plan: Other
Threats to Resource: None Known
Architectural Description:

2019 Browning: The 1.5 story house has an asphalt shingle roof, German composite siding, and a cinderblock foundation. Windows are in groups of two flanking an entrance door. A porch fronts the house. It continues the roof line of the house, has dimensional lumber square posts and sits on concrete block pillars. A single window is located on the end of the house on the top floor.

Exterior Components

Component	Component Type	Material	Material Treatment
Roof	Side Gable	Asphalt	*No Data*
Structural System and Exterior Treatment	Wood Frame	Composite	Siding
Foundation	Piers	Concrete	Uncoursed
Porch	1-Story Full-Width	Wood	Square

Secondary Resource Information

Historic District Information

Historic District Name: *No Data*
Local Historic District Name: *No Data*
Historic District Significance: *No Data*

CRM Events

Event Type: DHR Staff: Not Eligible

DHR ID: 024-5115
Staff Name: Laura Lavernia
Event Date: 3/30/2020
Staff Comment
2019-0180

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: *No Data*
Investigator: Lyle Browning
Organization/Company: Browning & Associates, LTD
Photographic Media: Digital
Survey Date: 8/7/2019
Dhr Library Report Number: *No Data*
Project Staff/Notes:
No Data
Project Bibliographic Information:
2019, Browning & Rose. Phase I Intensive Cultural Resources Report, Green Ridge Landfill, Cumberland County, VA. Report to be filed with DHR.

Bibliographic Information

Bibliography:
No Data
Property Notes:
No Data

Property Information

Property Names

Name Explanation	Name
Function/Location	House, 220 Miller Lane

Property Evaluation Status

DHR Staff: Not Eligible

Property Addresses

Current - 220 Miller Lane

County/Independent City(s): Cumberland (County)
Incorporated Town(s): *No Data*
Zip Code(s): 23040
Magisterial District(s): *No Data*
Tax Parcel(s): 38-A-6
USGS Quad(s): TRENHOLM

Additional Property Information

Architecture Setting: Rural
Acreage: 2
Site Description:

2019 Browning: This house faces onto Miller Lane with a small front yard with decorative plantings around the house and by the road and entranceway. The side yard and back yard are quite small. The remainder of the lot is wooded.

Surveyor Assessment:

2019 Browning: This 1 story modular home has no distinguishing architectural characteristics and is endlessly replicated in the county and region.

Surveyor Recommendation: Recommended Not Eligible

Ownership

Ownership Category	Ownership Entity
Private	*No Data*

Primary Resource Information

Resource Category: Domestic
Resource Type: Single Dwelling
NR Resource Type: Building
Historic District Status: *No Data*
Date of Construction: Ca 1990
Date Source: Local Records
Historic Time Period: Post Cold War (1992 - Present)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: Other
Form: Rectangular
Number of Stories: 1.0
Condition: Good
Interior Plan: Other
Threats to Resource: None Known
Architectural Description:

2019 Browning: This 1 story modular home has an asphalt shingle roof, composite German siding and sits on a cinderblock foundation.

Exterior Components

Component	Component Type	Material	Material Treatment
Roof	Side Gable	Asphalt	*No Data*

Structural System and Exterior Treatment	Wood Frame	Asphalt	Siding
Foundation	English/Raised	Concrete	Block

Secondary Resource Information

Historic District Information

Historic District Name: *No Data*
Local Historic District Name: *No Data*
Historic District Significance: *No Data*

CRM Events

Event Type: DHR Staff: Not Eligible

DHR ID: 024-5117
Staff Name: Laura Lavernia
Event Date: 3/30/2020
Staff Comment
2019-0180

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: *No Data*
Investigator: Lyle Browning
Organization/Company: Browning & Associates, LTD
Photographic Media: Digital
Survey Date: 8/7/2019
Dhr Library Report Number: *No Data*
Project Staff/Notes:
No Data
Project Bibliographic Information:
2019, Browning & Rose. Phase I Intensive Cultural Resources Report, Green Ridge Landfill, Cumberland County, VA. Report to be filed with DHR.

Bibliographic Information

Bibliography:
No Data
Property Notes:
No Data

Property Information

Property Names

Name Explanation	Name
Function/Location	House, 206 Miller Lane

Property Evaluation Status

DHR Staff: Not Eligible

Property Addresses

Current - 206 Miller Lane

County/Independent City(s): Cumberland (County)
Incorporated Town(s): *No Data*
Zip Code(s): 23040
Magisterial District(s): *No Data*
Tax Parcel(s): 45-A-2-G
USGS Quad(s): TRENHOLM

Additional Property Information

Architecture Setting: Rural
Acreage: 5.4
Site Description:

2019 Browning: The house sits on a small upraised landform with little grass in front of or surrounding the structure.

Surveyor Assessment:

2019 Browning: This 1961 conventional modern structure is of one story, with additions to the north in the form of an enclosed porch and to the east in the form of a leanto running the length of the house. To the south is a carport. The house has no architectural character.

Surveyor Recommendation: Recommended Not Eligible

Ownership

Ownership Category	Ownership Entity
Private	*No Data*

Primary Resource Information

Resource Category: Domestic
Resource Type: Single Dwelling
NR Resource Type: Building
Historic District Status: *No Data*
Date of Construction: 1961
Date Source: Local Records
Historic Time Period: Post Cold War (1992 - Present)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: Rectangular
Number of Stories: 1.0
Condition: Poor
Interior Plan: Center Hall
Threats to Resource: None Known
Architectural Description:

2019 Browning: This is a center passage house with one room to either side. It has 1 story. A small porch has been enclosed on the north side, an addition runs the length of the rear of the house and a carport has been added.

Exterior Components

Component	Component Type	Material	Material Treatment

Roof	Side Gable	Asphalt	*No Data*
Structural System and Exterior Treatment	Wood Frame	Aluminum	Siding
Foundation	Solid/Continuous	Concrete	Block

Secondary Resource Information

Historic District Information

Historic District Name: *No Data*
Local Historic District Name: *No Data*
Historic District Significance: *No Data*

CRM Events

Event Type: DHR Staff: Not Eligible

DHR ID: 024-5118
Staff Name: Laura Lavernia
Event Date: 3/30/2020
Staff Comment

2019-0180

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: *No Data*
Investigator: Lyle Browning
Organization/Company: Browning & Associates, LTD
Photographic Media: Digital
Survey Date: 8/7/2019
Dhr Library Report Number: *No Data*
Project Staff/Notes:

No Data

Project Bibliographic Information:

2019, Browning & Rose. Phase I Intensive Cultural Resources Report, Green Ridge Landfill, Cumberland County, VA. Report to be filed with DHR.

Bibliographic Information

Bibliography:

No Data

Property Notes:

No Data

Property Information

Property Names

Name Explanation	Name
Function/Location	House, 208 Miller Lane

Property Evaluation Status

DHR Staff: Not Eligible

Property Addresses

Current - 208 Miller Lane

County/Independent City(s): Cumberland (County)
Incorporated Town(s): *No Data*
Zip Code(s): 23040
Magisterial District(s): *No Data*
Tax Parcel(s): 45-A-2-H
USGS Quad(s): TRENHOLM

Additional Property Information

Architecture Setting: Rural
Acreage: 2
Site Description:

2019 Browning: The singlewide mobile home is located in an open, grassed space and set at the back of it. Decorative plantings are visible.

Surveyor Assessment:

2019 Browning: 2019 Browning: The singlewide mobile home is a common survivor of a common type designed for lower income families to achieve home ownership at a reasonable price. It has no outstanding architectural characteristics.

Surveyor Recommendation: Recommended Not Eligible

Ownership

Ownership Category	Ownership Entity
Private	*No Data*

Primary Resource Information

Resource Category: Domestic
Resource Type: Mobile Home/Trailer
NR Resource Type: Building
Historic District Status: *No Data*
Date of Construction: 2007
Date Source: Local Records
Historic Time Period: Post Cold War (1992 - Present)
Historic Context(s): Domestic, Settlement Patterns
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 1.0
Condition: Fair
Interior Plan: Other
Threats to Resource: None Known
Architectural Description:

2019 Browning: The home has 1 entrance door with a stair and landing on the exterior. It has 4 irregularly space 6/6 windows.

Exterior Components

Component	Component Type	Material	Material Treatment
Roof	Side Gable	Asphalt	*No Data*

Secondary Resource Information

Historic District Information

Historic District Name: *No Data*
Local Historic District Name: *No Data*
Historic District Significance: *No Data*

CRM Events

Event Type: DHR Staff: Not Eligible

DHR ID: 024-5119
Staff Name: Laura Lavernia
Event Date: 3/30/2020
Staff Comment
2019-0180

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: *No Data*
Investigator: Lyle Browning
Organization/Company: Browning & Associates, LTD
Photographic Media: Digital
Survey Date: 8/7/2019
Dhr Library Report Number: *No Data*
Project Staff/Notes:
No Data
Project Bibliographic Information:
2019, Browning & Rose. Phase I Intensive Cultural Resources Report, Green Ridge Landfill, Cumberland County, VA. Report to be filed with DHR.

Bibliographic Information

Bibliography:
No Data
Property Notes:
2019 Browning: The mobile home faces onto Miller Lane and is behind and to the side of another road fronting property.

Attachment F

Draft Monitoring and Maintenance Plan

1408 B Roseneath Rd
Richmond, VA 23112

Corporate Headquarters
6575 West Loop South, Suite 300
Bellaire, TX 77401
Main: 713.520.5400

DRAFT

Monitoring and Maintenance Plan (MMP)

For

GREEN RIDGE LANDFILL
STREAM PERMITTEE-RESPONSIBLE MITIGATION PROJECT

CUMBERLAND COUNTY, VIRGINIA

Permittee
Green Ridge Recycling and Disposal Facility, LLC
12230 Deerhill Road
Midlothian, VA 23112

Authorized Agent
RES, LLC
1408 B Roseneath Road
Richmond, VA 23230

April 2021

I MONITORING PLAN

A. **As-built Survey:** The as-built report will contain a survey showing finished grades and will describe in detail any substantial deviations from the approved construction plans. The survey will be certified by a licensed land surveyor or a licensed professional engineer. The as-built survey will be submitted within 90 days of the completion of construction, including planting. At least an 11x17 presentation will be provided, along with an electronic version. The as-built reports will include adequate data to show that all components have been constructed, installed, and/or planted according to final design plans.

1. As-Built report will include the following:

   a. Plan view maps of the constructed streams, and adjacent buffers that depict the Project boundaries, as-built topography, all mitigation activities (including buffer activities), and the locations of all monitoring stations (photo stations, anticipated vegetation sampling plots, stream gages, cross-sections, longitudinal profiles, pattern and bank vegetation monitoring stations, chemical and biological monitoring stations, etc.).

   b. As-built longitudinal profiles of stream reaches taken from permanent locations and overlaid with and compared to design longitudinal profiles.

   c. As-built cross-sections of stream reaches taken at locations and overlaid with and compared to design cross-sections.

   d. Photographs of the completed construction taken at permanent photo stations.

   e. Summary stream geomorphologic data presented in a side-by-side comparison of the design, reference, and as-built channels.

   f. Planting composition, locations, and densities.

B. **Performance Standards:** The stream Performance Standards should demonstrate that the stream channels that were preserved and restored meet the intended objectives and functions of the Project and attain dynamic equilibrium. The Permittee and the U.S. Army Corps of Engineers (USACE) and the Virginia Department of Environmental Quality (DEQ), (the USACE and the DEQ together referred to as the “Agencies”) will use monitoring reports, visual observations, and best professional judgment to evaluate attainment of Performance Standards and in determining whether the Project has met its goals and objectives, or whether corrective action or Adaptive Management are warranted. The following criteria will be used to assess project success:

1. Submittal of required documentation, including monitoring reports, as-built drawings, and the approved mitigation plan.

2. <u>RIPARIAN BUFFER PRESERVATION PERFORMANCE STANDARDS</u>

   a. For Preservation riparian buffers, document compliance with the INU Management Plan.

3. RIPARIAN BUFFER REPLANTING PERFORMANCE STANDARDS

a. In all Replanting Riparian Buffer areas:

1) A minimum of 400 woody stems of native tree species per acre (including volunteers) shall be achieved by the end of the first growing season following planting and maintained each monitoring year until shrub and/or canopy/crown coverage is at least 30%. Canopy coverage shall be at least 30% each monitoring year thereafter. The number of woody stems of native tree species per acre may vary under certain circumstances. Such deviations must be approved by the Agencies.

2) In the Piedmont physiographic region, the total stem area at groundline (SAG) for all woody vegetation must be greater than or equal to:

(a)	1st growing season	0.6 ft^2/acre
(b)	2nd growing season	1.0 ft^2/acre
(c)	3rd growing season	1.5 ft^2/acre
(d)	5th growing season	3.8 ft^2/acre
(e)	7th growing season	8.9 ft^2/acre
(f)	10th growing season	29.1 ft^2/acre

3) Document compliance with the INU Management Plan.

4. STREAM PERFORMANCE STANDARDS

a. STREAM PRESERVATION AREAS (Applies to all linear footage of preserved stream channel where stream restoration is occurring upstream and within the Project area).

1) The Bank Height Ratio shall not increase by an amount greater than 0.2 of the Year 1 Bank Height Ratio.

2) The Bankfull stream Cross-Sectional Area shall not increase or decrease by an amount greater than 25% of the as-built stream cross-sectional area.

b. STREAM RESTORATION AREAS

1) FLOODPLAIN CONNECTIVITY

(a) The reach-averaged Bank Height Ratio (average of the calculated Bank Height Ratios for all riffle cross-sections within a given reach) shall not increase by an amount greater than 0.2 of the as-built Bank Height Ratio.

2) LATERAL STABILITY/BANK MIGRATION

(a) The Total Score of Bank Erodibility Hazard Index (BEHI) for a reach shall be equal to or less than the previous year's Total Score and shall have a Total Score of "Moderate" by monitoring Year 3. For C or E stream types, a Total Score of "Low" or better shall be achieved by monitoring Year 5. For B stream type channels, a Total Score of "Moderate" or better shall be maintained throughout the remainder

of the monitoring period.

(b) The reach-averaged Width / Depth Ratio Stability Rating (average of the calculated Width / Depth Ratio Stability Ratings for all riffle cross-sections within a given reach = Width / Depth Ratio divided by the as-built Width / Depth Ratio) shall not be less than 0.7 or greater than 1.3, or each measured Width / Depth Ratio shall remain within the design conditions.

(c) The Bankfull stream Cross-Sectional Area shall not increase or decrease by an amount greater than 25% of the as-built stream cross-sectional area.

(d) The numbers of live stakes and woody stems of native tree and shrub species providing bank stabilization from the top of bank to the toe of slope shall be at least 1 living stem per 50 square feet per stream edge along the bank by the end ofthe first growing season following planting and maintained each monitoring year until canopy coverage is 30% for any identified reach. Canopy coverage shall be at least 30% each monitoring year thereafter.

3) VERTICAL STABILITY/BED FORM DIVERSITY

(a) The average bankfull slope of the reach shall not increase or decrease by an amount greater than 0.1 of the approved as-built slope, or the slope of the reach shall remain within the range represented in the design conditions.

(b) (Constructed riffles only) The D50 size particle remains within its approved as-built size class (silt, sand, gravel, cobble, or boulder), or the D50 size particle remains within its design size class (silt, sand, gravel, cobble, or boulder).

4) STRUCTURE STABILITY

(a) Absence of collapsed structure or repositioned header rocks.

(b) Absence of under cutting, washing around, or erosion of the bank or streambed associated with any instream structure that could lead to a collapsed structure or repositioned head rock.

(c) Maintenance of pool depth immediately downstream of the structure (where appropriate), including absence of excessive scour or deposition in pool immediately downstream of the structure.

(d) All structures are exposed, unless they are specified as buried rock or log sill structures.

5) AQUATIC HABITAT

(a) (For perennial streams only) Habitat Assessment – The Total Score of the Habitat Assessment for each reach shall be 100 or greater at Year 1, and each monitoring year thereafter the Total Score shall be equal to or greater than the previous Year's Total Score.

C. **Monitoring Provisions:** All necessary work will be conducted to monitor the project to demonstrate compliance with the success criteria established in this mitigation plan.

1. GENERAL CONDITIONS

a. Monitoring activities will occur during the 1st, 2nd, 3rd and 5th years following completion of grading. In addition, monitoring will adhere to the following schedules:

1) Monitoring of vegetation will be conducted during the growing season.

2) After Year 1, physical monitoring of stream condition (e.g. Longitudinal profiles, cross- sections, pattern monitoring) may be conducted outside of the growing season.

3) If all performance criteria have not been met in the 5th year, then a monitoring report will be required for each consecutive year until two sequential annual reports indicate that all criteria have been successfully satisfied.

4) A final monitoring report (typically prepared the 5th growing season following completion of grading) will be completed to determine final success and allow the Project to be released from monitoring requirements.

b. Monitoring may be terminated or the extent of monitoring may be reduced over part or all of the Project site at the discretion of the Agencies.

c. For any year in which planting was conducted, monitoring of vegetation will take place at least 6 months following planting.

2. MONITORING REPORTS
All monitoring reports, other than the as-built report, will include the following general items:

a. Title page, including, where applicable, the site name, monitoring year(s), Permittee identification (name, address, phone number, and email address), Agent/Report preparer identification (name, address, phone number, and email address).

b. Vicinity Map of the Project, including latitude and longitude at the entrance of the site.

c. A Section with all Performance Standards and monitoring requirements for the Project.

d. Complete maintenance summary for the Project since construction, including any adaptive management or corrective action (e.g. supplemental planting, structure repair, invasive treatment, etc.).

e. A map or drawing, based on the as-built drawings of the Project, that depicts topography, all mitigation activities, and the locations of all monitoring stations (permanent photo stations, vegetation sampling plots, stream gauges, cross-sections, longitudinal profiles, pattern monitoring stations, etc.).

f. Overall Performance Standard table for the Project, showing each plot, cell, or area and whether that area met Performance Standards during the current monitoring year and each previous monitoring year.

g. Corrective action plan, if necessary, including the current deficiencies or issues within the Project, proposed adaptive management, corrective actions, or maintenance activities, and an estimated schedule for completion.

h. The following certification statement: "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

3. RIPARIAN BUFFER PRESERVATION MONITORING AND REPORTING
In Riparian Buffer Preservation Areas monitoring and reporting will be driven by the Performance Standards, and shall include the following:

a. VEGETATION

1) Monitoring: Methodology necessary to demonstrate compliance with the approved INU treatment plan.

2) Reporting: Reporting necessary to demonstrate compliance with the approved INU treatment plan. At a minimum, preservation areas should be included on an updated INU species Inventory Map for the Project that shows the current location and extent of INU species onsite and takes into account any changes in INU species populations, such as treatment that was performed in the past year.

b. VISUAL OBSERVATIONS

1) Monitoring: Visual observations of the preservation areas shall include any changes in the buffer condition and photographic documentation of the preservation areas, if they have changed.

2) Reporting: Visual observations shall be provided with each monitoring report through written discussion of the condition of preservation areas, any changes to the buffer, and photographic documentation, as necessary to further describe the buffer condition.

4. RIPARIAN BUFFER REPLANTING MONITORING AND REPORTING
In Riparian Buffer Replanting areas, monitoring and reporting will be driven by the Performance Standards, and shall include the following:

a. VEGETATION

1) Monitoring

(a) Forested or scrub/shrub (i.e. woody) monitoring plots – Riparian buffers shall be stratified into relatively homogeneous sample areas. These sample areas may correspond to planting zones, Phases, proposed habitat, cover/community type, or other characterizations. These sample areas do not have to be contiguous. Appropriate methods shall be used to randomly locate woody plots within sample areas (transects with random number generators, GIS randomization methods, etc.). Plots shall be re-established in new random locations each year.

Woody plots shall be circular in dimension and measure 1076 ft2 (100 m2), which is equivalent to a circle with a radius of 18.5 ft (5.6 m). This plot size equates to 0.025 or 1/40th of an acre, which provides a multiplier of 40x for stem density conversion to per acre values.

At a minimum, the total area covered by woody plots shall be at least 2% of the sample area. However, additional plots will be required if the number of plots is determined to not be adequate. Sampling adequacy can be determined using a variety of methods (e.g. Species-area curves leveling off, variance stabilization, etc.) and shall be included in all monitoring reports. Conversely, after 2 years of sampling, if sampling adequacy analysis indicates oversampling, the number of plots may be reduced.

The woody vegetation data collected shall include identification of all live woody stems found in the sampling plot by scientific and common name with corresponding wetland indicator status, native status, stem count, dominant species, stem diameter at groundline (see below), overall canopy coverage, or others, as required by the Performance Standards.

The stem diameter at groundline (SDG) of all individual woody vegetation (any height or diameter) including trees and shrubs should be measured to the nearest 0.1 inch. If significant swelling or malformation is present, the SDG should be measured directly above where the stem returns to normal taper. For multi-stemmed vegetation, the SDG for each individual stem should be measured and combined following conversion to stem area at groundline (SAG). This effectively forms a single stem for each individual. Total SAG shall be presented as ft^2/acre for each plot and average SAG with measures of variance (e.g. standard deviation) shall be presented for each sample area.

2) Reporting

The monitoring report shall include raw and summary vegetation data. The raw data can be submitted as a supplementary Excel file and should include all vegetation data from all plots. The summary data shall present the vegetation data summarized (e.g. averages, variance, totals, etc.) for each strata (homogenous sample area described above) preferably in table form. These summary tables shall include comparisons of summarized data to all applicable Performance Standards. For Riparian Buffer Replanting areas these summary tables may include the following data; woody stem density (stems/acre), canopy coverage (percentage), SAG (ft^2/acre), and location and cover of INU species.

b. PHOTOGRAPHS
Visual observations shall be documented and provided with each monitoring report with the following:

1) Monitoring
Either ground level photographs will be taken facing north, south, east, and west, from stations located adjacent to each vegetation plot or one color aerial photograph (8" x 10" or larger) depicting the entire site will be taken. An aerial photograph should be taken after site construction (including planting) and again in the 5th monitoring year. Existing aerial images (if current) may be substituted (i.e. Google Earth images or state aerial images). One aerial photograph may be used for the whole project site, including any riparian mitigation areas.

2) Reporting
For the current monitoring year, either the ground level photographs or the color aerial photograph (if applicable) will be provided with the report.

5. STREAM RESTORATION MONITORING AND REPORTING

a. BANKFULL EVENT DOCUMENTATION
For stream Restoration activities, stream gauge data and documentation of any bankfull events will be provided, as recorded by onsite stream gauge(s) and/or onsite or nearby precipitation data.

b. CROSS-SECTIONS
Where Performance Standards indicate that channel dimension will be measured and analyzed (Width/Depth Ratio, Bank Height Ratio, Entrenchment Ratio, Cross-Sectional Area, or others), the following shall occur:

1) Monitoring
Permanent cross-sections shall be established to ensure that the same locations are used each monitoring year. A minimum of one cross-section in appropriate stream preservation reaches (see Performance Standards), and one cross-section per 500 linear feet in restoration reaches will be required. In restoration reaches, cross-sections should include at least 1 riffle and 1 pool cross-section on each reach, and a proportionate amount of riffle and pool cross-sections on each reach. Total number required will vary depending on project length and complexity. Additional cross-sections may be required to show areas where aggradation, degradation, erosion, and mid-channel bars have developed. Cross-sectional measurements shall include streambanks, streambed, water surface, bankfull, and adjacent floodplain. The bankfull elevation in the channel shall be measured at the as-built monitoring, and the as-built bankfull shall be used as the bankfull elevation in each subsequent monitoring event. When calculating the Entrenchment Ratio, the floodplain may be measured separate from the cross-section during field data collection. Ground level photographs will be taken annually during leaf-off conditions of the current monitoring year at all cross-sections. These photographs will be taken facing upstream at the cross-section, downstream at the cross-section, and left bank and right bank, showing the riparian buffer area and stream bank.

2) Reporting
Cross-section reporting shall include a graph of the current monitoring year's cross-section, with the cross sections for all previous monitoring years overlain. Callouts on the graph shall be appropriate for the Performance Standards, and may include bankfull elevation, bankfull width, bankfull depth, flood prone elevation, flood prone depth, top of bank location and elevation, or others, as appropriate. A table of the appropriate Performance Standard parameters will be provided, showing all individual cross-section calculations and a reach-averaged calculation, and comparing the as-built to the current year's monitoring data. Ground level photographs shall be provided with each monitoring report, according to the monitoring requirements.

c. LONGITUDINAL PROFILE
Where Performance Standards indicate that channel bed form or vertical stability parameters will be measured and analyzed (Pool-to-pool spacing, max pool depth, slope, riffle slope, or others), the following shall occur:

1) Monitoring
A surveyed longitudinal profile will be conducted of the reach in the thalweg of the channel, from 20 feet upstream of the start of the reach to 20 feet downstream of the end of the reach (unless property boundaries, stream confluences, or other constraints are present). Longitudinal profile measurements should include the locations, depths, and slopes of riffles, runs, pools, and glides, and representative water surface elevation and bankfull surface elevation lines.

2) Reporting
Longitudinal profile reporting shall include a graph of the current monitoring year's profile, with the profiles for all previous monitoring years overlain. Callouts on the graph shall be appropriate for the Performance Standards, and may include bankfull elevation, water surface elevation, locations of facets, or others, as appropriate. Pool-to-pool spacing is measured from the top of pool to top of pool. Max pool depth is the pool depth measured from the reach bankfull elevation to the thalweg in the deepest part of the pool. Channel bed slope shall be measured from the top of a riffle to the top of another riffle over a channel length of at least 10 bankfull widths. Riffle slope is measured from the top of riffle to the bottom of the same riffle (top of run). A table of the appropriate Performance Standard parameters will be provided in each monitoring report, showing all individual profile calculations and a reach-averaged calculation, and comparing the as-built to the current year's monitoring data for each parameter.

d. PATTERN
Where Performance Standards indicate that lateral stability or bank migration parameters will be measured and analyzed (Meander Width Ratio, Sinuosity, Radius of Curvature, Bank Erodibility Hazard Index (BEHI), or others), the following shall occur:

1) Monitoring
Permanent pattern monitoring stations shall be established to ensure that the same locations are used each monitoring year. A minimum of three pattern monitoring stations shall be established to measure Meander Width Ratio, Radius of Curvature, or BEHI. A minimum of one pattern monitoring station shall be established to measure sinuosity. Total number of monitoring stations required will vary depending on project length and complexity. Sinuosity shall be assessed along a stream reach that is a minimum of 10 bankfull widths in length. When BEHI is conducted, all individual BEHI

metrics shall be measured at each permanent station in the field during each monitoring event.

2) Reporting
Pattern reporting shall include a table of the appropriate Performance Standard parameters, showing all individual pattern measurements and a reach-averaged calculation or ratio (if applicable), and comparing the as-built to the current year's monitoring data for each parameter. BEHI reporting shall include providing the current monitoring year's BEHI worksheet, and a table of the total BEHI score for each monitoring year from as-built to the current year.

e. STREAM BANK VEGETATION
Where Performance Standards indicate that stream bank vegetation will be measured and analyzed (Livestakes, Herbaceous Coverage, Bare Ground Coverage, or others), the following shall occur:

1) Monitoring
Stream bank vegetation plots (10 square feet in size or larger) shall be located on each bank representative permanent cross-section or pattern monitoring stations.

2) Reporting
Stream vegetation reporting may include a table of the results of the vegetation surveys, including per plot reporting of the species and number of livestakes or woody stems, extrapolated number livestakes per 50 square feet, estimated herbaceous coverage, and/or estimated bare ground coverage.

f. MATERIALS
Where Performance Standards indicate that stream bed materials will be measured and analyzed (D50 particle size, or others), the following shall occur:

1) Monitoring
Conduct the Wolman pebble count technique within a representative amount of constructed riffles within a reach. Pebble counts may be associated with representative permanent cross-section or pattern monitoring stations, or set up within the longitudinal profile at independent monitoring stations.

2) Reporting
Materials reporting shall include a table of the representative D50 of the constructed riffle pebble count for each reach during each monitoring year, and the size class represented by the as-built and current monitoring year D50.

g. STRUCTURES
Where Performance Standards indicate that structure stability will be evaluated and analyzed, the following shall occur:

1) Monitoring
Ground level photographs, documenting the structural integrity and function of each instream structure, will be taken looking upstream at the structure, showing at a minimum the instream structure at the thalweg (or location of buried sill), the upstream and downstream channel, and the immediately adjacent stream banks to bankfull elevation, where possible.

2) Reporting
Ground level photographs shall be provided with each monitoring report, documenting structure conditions during the current monitoring year. The report shall note any structural failures or issues, as listed in the Performance Standards.

h. AQUATIC HABITAT
Where Performance Standards indicate that aquatic habitat will be evaluated and analyzed, the following shall occur:

1) Monitoring
A habitat assessment shall be conducted at either each benthic macroinvertebrate monitoring station (as outlined below), or at a minimum one representative monitoring station per reach. Procedures and forms for habitat assessment can be located in the DEQ's Biological Monitoring Program Quality Assurance Project Plan for Wadable Streams and Rivers (DEQ, 2008) Appendix B (iii) or EPA's Rapid Bioassessment Protocol for Use in Streams and Wadable Rivers (Barbour et. al, 1999) Chapter 5.

2) Reporting
Habitat reporting shall include providing the current monitoring year's Habitat Assessment worksheet for each reach. A table shall be provided in the monitoring report that shows the habitat assessment total score for all monitoring years for each reach.

i. CHEMICAL AND BIOLOGICAL MONITORING
The objective of benthic macroinvertebrate sampling is to allow for comparison between projects involving stream channel restoration activities; to identify issues that may need to be addressed in restoration design; to determine realistic expectations for the post-restoration aquatic community; and to inform future stream restoration designs and efforts. The following monitoring and reporting shall occur during every monitoring year within stream restoration reaches onsite:

1) Monitoring

(a) Monitoring events shall occur consistently in either spring or fall of each monitoring year. Spring sampling shall be conducted between March 1 and May 31. Fall sampling shall be conducted between September 1 and November 30. Water chemistry and benthic samples shall be collected simultaneously at each of the monitoring locations. The number and location of monitoring stations shall remain consistent throughout the monitoring period.

(b) Scientific Collection permits for conducting benthic sampling shall be obtained from Virginia Department of Game and Inland Fisheries (information available at http://www.dgif.virginia.gov/permits/guide.asp). All field sampling as well as laboratory sample processing shall be performed by or under supervision of an aquatic biologist. As required by the collection permit, all sampling data shall be submitted to VDGIF using their annual reporting protocol.

(c) Chemistry – Temperature, total dissolved oxygen, pH, and conductivity shall be collected at each designated monitoring location site using a multi-probe meter. Detailed information on testing, inspection, and maintenance requirements of all multi- probe meters for measurement of stream physicochemical parameters can

be found in Section IV of the Standard Operating Procedures Manual for the Department of Environmental Quality Office of Water Quality Monitoring and Assessment Program (DEQ, 2010).

(d) Biological – A quantitative survey for benthic macroinvertebrates shall be conducted at permanent monitoring locations. Benthic macroinvertebrates shall be identified at least to the genus level. Detailed procedures and methods for biological monitoring, field methods, laboratory methods, and quality assurance can be found in Biological Monitoring Program Quality Assurance Project Plan for Wadable Streams and Rivers (DEQ, 2008). This document shall serve as the basis for the field monitoring and laboratory data collection methods. Two sampling procedures are presented:

i. Single Habitat is used for streams in which riffles or riffle/pool complexes with appropriate substrate (cobble) are available for sampling and are large enough so that at least 1m² of the substrate can be sampled.

ii. Multiple Habitat is used in cases where no or few riffles are present, the riffles in the reach are too small and/or too few to sample 1m² of substrate. Multi-habitat sampling is most commonly performed in, but not limited to, low gradient or coastal plain streams.

2) Reporting

(a) Benthic Macroinvertebrate reporting shall include a table showing the VSCI or CPMI total score for all monitoring years for each reach.

j. For non-coastal streams, use the resulting benthic macroinvertebrate data to calculate the Stream Condition Index for Virginia Non-Coastal Streams (VSCI). This Stream Condition Index for Virginia Non-Coastal Streams (September 2003) is found at: http://www.deq.virginia.gov/Portals/0/DEQ/Water/WaterQualityMonitoring/BiologicalMonitoring/vsci.pdf. An Access database used to calculate VSCI and CPMI can be provided upon request.

ii. For coastal streams, use the resulting data to generate a Coastal Plain Macroinvertebrate Index (December 2013) found at http://www.deq.virginia.gov/Portals/0/DEQ/Water/WaterQualityMonitoring/Probab ilisticMonitoring/vcpmi.pdf. An Access database used to calculate VSCI and CPMI can be provided upon request.

II MAINTENANCE PLAN

The project will be maintained consistent with this plan, in addition to construction, monitoring, and adaptive management. Maintenance activities will be continued until the Project-related permit is closed and the Long-Term Steward assumes their responsibilities. Deviation from the maintenance provisions in the approved plan requires review and written approval from the Agencies.

The following regular maintenance and bookkeeping will be conducted for the Project, at a minimum:

- Maintain a Project activities ledger, which describes the date, purpose, description of activities performed, and outcome of each maintenance visit. This ledger is not required to be submitted on a regular basis, but may be requested by the Agencies at any time;
- Conduct annual inspections of all mitigation areas, including preservation areas, particularly during non-reporting years of Project operation;
- Maintain and repair all mitigation areas to meet or exceed the objectives and functions of the Project, including all mitigation-related structures;
- Proactively manage INU species on the Project site in accordance with the approved INU Management Plan and Adaptive Management Plan;
- Ensure that no trespass, illegal dumping, or trash accumulation occurs on the Project site;
- Other maintenance responsibilities to Project operation and adaptive management.

III INVASIVE, NUISANCE AND UNDESIRABLE (INU) SPECIES MANAGEMENT PLAN

The site will be monitored and maintained to control invasive, nuisance and undesirable (INU) plant species on the PRM project site per the following plan:

1. The site will be monitored for the presence of INU plant species throughout the growing season, as part of the routine in-stream and vegetation monitoring visits, to ensure that any issues that arise are addressed in a timely manner and to possibly prevent seed dispersal/spread of INU species. The presence and extent of invasive plant species will be quantified by stem counts, percent cover, or other appropriate methods, and documented in the annual monitoring report as described above.

2. Compliance with this INU Plan will require that no more than 5% cover may be made up by species listed as highly or moderately invasive on the Virginia Department of Conservation and Recreation's *Invasive Alien Plant List*, and which the presence of which precludes the establishment of a healthy vegetative community and/or threatens the long-term viability of the mitigation area.

3. Herbicides or algicides shall not be used in or immediately adjacent to the stream compensation site without prior authorization by the Agencies. All vegetation removal shall be done by manual means, unless authorized by the Agencies in advance.

IV ADAPTIVE MANAGEMENT PLAN

The Project will be maintained consistent with this plan during the monitoring and maintenance period. The Adaptive Management Plan (AMP) is a strategy to address changes in site conditions or other components of the Project, including the party or parties responsible for implementing any necessary adaptive management measures. The AMP shall be implemented using the outlined strategies until the Project -related permit is closed and the Long-Term Steward assumes their responsibilities. Deviation from the AMP requires review and written approval from the Agencies.

A. Changes During Various Project Phases

1. Pre-Construction
   Aquatic and riparian areas are dynamic ecological systems, particularly those that are impaired and/or located within actively managed landscapes, such as a farm. As a result, some Project site conditions may change between the time of initial design and construction/implementation. Therefore, prior to the start of stream restoration construction, buffer planting or INU treatment activities, the Project will be walked to evaluate the current existing conditions, as compared to the conditions present during the initial data collection efforts.

   Any changes in existing conditions that would affect the proposed design or implementation strategy will be documented and incorporated into the Final Mitigation Work Plan (FMWP) and/or the post-construction as-built. Significant changes that would substantially alter the mitigation design or credit yield will be submitted to the Agencies through a revision to the FMWP for review and approval prior to incorporating the proposed change. Relatively minor changes will be documented and reflected on the post-construction as-built, along with a discussion of the site conditions that had changed, and any resulting changes in mitigation design or credit yield.

2. During Construction
   Any changes in Project site conditions encountered during stream restoration construction or initial buffer planting or INU treatment implementation that necessitates a change in mitigation design or affects credit yield will be documented and reflected on the post-construction as-built, along with a discussion of the site conditions that had changed, and any resulting changes in mitigation design or credit yield.

3. Post-Construction
   Upon completion of the planned site work, the post-construction monitoring and reporting protocols will be implemented. During monitoring, adaptive management protocols will be employed if conditions on the Project site are identified that would result in failure, or could, if left unaddressed, result in failure of one or more Performance Standards.

   The planning, coordination, and implementation of a prescribed remedial action will depend on the nature and scale of the issue meant to be addressed. Relatively minor repairs and maintenance to mitigation elements and other structures associated with the Bank site will be implemented on an as-needed basis and reported in the maintenance section of the annual report. Addressing more significant issues that have the potential to substantially affect the number of credits generated or threaten the long-term viability of the mitigation will require timely coordination with the Agencies. If issues of this nature arise, the Permittee will contact the Agencies as soon as is reasonably possible after

becoming aware of the issue and will work with the Agencies to develop a specific remediation plan for the particular issue.

In the event any adaptive management of the Site occurs during a given monitoring year, the practices employed will be detailed in the annual monitoring report. Should portions of the Project site not meet Performance Standards an area-specific corrective action plan will be submitted in the annual monitoring report detailing the likely reasons for failure and all remedial actions taken and/or proposed to be taken in the following year(s). Remedial actions will be designed with a goal of meeting any failing Performance Standards as soon as practical, while also ensuring the long-term sustainability of the Project site. The remedial action plan will include identification of the likely causes of failure, remedial design approach, work schedule, and monitoring criteria that will consider physical and climatic conditions.

B. Changes to Performance Standards

Changes to the selected metrics may be permitted as outlined below, in consultation with the Agencies, if it is determined during the monitoring period that one or more of these metrics is not accurately reflecting the conditions that are being observed on the Project site.

If it is determined that the Project site will not meet one or more Performance Standards during a given monitoring year because the chosen metrics are not accurately reflecting site conditions, additional data may be collected and submitted in the annual monitoring report to support the determination that the given element of the Project is successful. In this instance, the data associated with the failed performance standard must be submitted along with the supplementary data and a justification as to why the supplementary data more accurately reflects the site conditions. Acceptance of the supplementary data and all decisions regarding achievement of performance standards at the discretion of the Agencies

Subsequent to the approval of this plan, a permanent change to one or more of the metrics chosen to evaluate project success may be requested. In this instance, a written request shall be submitted to the Agencies seeking formal approval for the change. The request should provide justification as to why the initially selected standard is not able to accurately reflect site conditions and reasons why the proposed standard is better suited. If accepted by the Agencies, the change will be incorporated into the future monitoring reports.

C. Changes to Monitoring and Reporting Requirements

Changes to the monitoring and reporting requirements may be permitted as outlined below, in consultation with the Agencies, if unforeseen circumstances prohibit the safe and timely collection of data, or if it is determined that a monitoring procedure or reporting element is not accurately reflecting the conditions that are being observed on the Project site.

If, during the active site monitoring period, certain aspects of the required Project site monitoring are not able to be completed in a safe and timely manner due to unforeseen circumstances, a request for relief from the associated monitoring requirement may be submitted to the Agencies. The request should be submitted as soon as is practical, once the issue that would prohibit the completion of the required monitoring becomes known. Any requests for relief will be considered on a case-by-case basis, based on the merits of the situation. Relief from, or any other accommodations granted with regards to monitoring and reporting requirements, is at the discretion of the Agencies.

Subsequent to the approval of this plan, a permanent change to one or more of the monitoring and reporting requirements may be requested. In this instance, a written request should be submitted to the Agencies seeking formal approval for the change. The request should provide justification as to why the monitoring or reporting requirement is not able to accurately reflect site conditions or is otherwise unnecessary or adverse to the ecological goals of the Project. Any alternative or replacement monitoring and reporting requirements should be provided, with justification as to why the proposed approach is better suited for the Project site. If accepted, the change will be incorporated into the future monitoring reports.

D. Changes To Various Mitigation Elements

1. Stream Restoration Areas
   Remedial actions will be implemented throughout the monitoring period if conditions are identified within any of the stream restoration areas that would result in failure, or could, if left unaddressed, result in failure of one or more Performance Standards. This assessment could be based on visual assessment or evaluation of other monitoring data. The prescribed remedial action will depend on the nature and scale of the issue. For example, if minor and localized bank erosion or channel aggradation or scouring is identified, repairs to stabilization measures, supplemental livestake plantings, minor bank grading and/or adjustments to in-stream structures may be implemented, as appropriate. Remedial actions of this nature will be implemented on an as-needed basis and reported in the maintenance section of the annual report. If significant stream bank or channel stability issues are identified and/or if particular reaches exhibit re-occurring issues in terms of meeting Performance Standards, then an area-specific restoration plan will be devised in coordination with the Agencies and submitted for approval before implementation.

2. Riparian Buffer Areas
   Remedial actions will be implemented throughout the monitoring period if conditions are identified within any of the riparian buffer areas that would result in failure, or could, if left unaddressed, result in failure of one or more Performance Standards. This assessment could be based on visual assessment, or an evaluation of woody stem or INU vegetation data, or other monitoring data. The prescribed remedial action will depend on the nature and scale of the issue. For example, if stem densities are below the success threshold, supplemental planting may occur at a seasonally appropriate time. If ground cover is sparse, a reseeding could occur in conjunction with soil testing and soil amendments, if needed. Relatively minor issues will be addressed with remedial actions on an as-needed basis and reported in the maintenance section of the annual report. If significant issues are identified in terms of stem density or development, or control of INU species, that would substantially affect the number of credits generated at the Project site or threaten the long-term viability of the mitigation, then an area-specific restoration plan will be devised in coordination with the Agencies and submitted for approval before implementation.

V FINANCIAL ASSURANCES

A. Performance Bond - A performance bond in the amount of $1,774,965 will be secured for the initial construction of the PRM site. The bond amount is sufficient to secure replacement compensatory mitigation through the in-lieu fee program. The full amount of the bond will be released upon submittal and approval of the as-built survey and report.

B. Maintenance/Operation Bond – A maintenance and operation bond in the amount of $88,000 will be secured to cover full cost of monitoring and maintain the PRM site from time of construction until approval of final monitoring report. The following is a proposed schedule for release of the bond: 25% release upon approval of each monitoring report during years 1, 2, 3 and 5.

C. Long-Term Management Fund (LTMF) – An endowment will be established upon as-built survey and report approval for the long-term management of the PRM site. The endowment amount will be $116,570 and is based on an annual funding amount of $4,080 with an assumed capitalization rate of 3.50% to cover annual inspections and reporting, administrative costs, and replacement of items noted in the Long-Term Management Plan.

Attachment G

Draft Long-Term Management Plan

1408 B Roseneath Road
Richmond, VA 23230

Corporate Headquarters
5020 Montrose Blvd. Suite 650
Houston, TX 77006
Main: 713.520.5400

DRAFT

Long-Term Management Plan (LTMP)

For

GREEN RIDGE RECYCLING AND DISPOSAL FACILITY
STREAM MITIGATION
CUMBERLAND COUNTY, VIRGINIA

Permittee
Green Ridge Recycling and Disposal Facility, LLC
12230 Deerhill Road
Midlothian, VA 23112

Authorized Agent
RES
1408 B Roseneath Rd.
Richmond, VA 23230

August 2020
Revised April 2021

Table of Contents

I Introduction

A Purpose of Establishment

The Green Ridge Recycling and Disposal Facility Stream Mitigation site will be established as a Permittee Responsible Mitigation (PRM) site to compensate for unavoidable impacts to streams, and to preserve, restore, and enhance streams and their associated buffers. This project has the ability to provide up to 16,172 stream credits (5,765 credits of stream restoration, 5,565 credits of stream enhancement, and 4,842 credits of stream preservation) using the Unified Stream Methodology. The Green Ridge Recycling and Disposal Facility Stream Mitigation site is being established as a PRM site to compensate for proposed stream impacts associated with the construction of Green Ridge Recycling and Disposal Facility in Cumberland County, Virginia.

B Purpose

The purpose of this LTMP is to ensure the mitigation site is managed, monitored, and maintained in perpetuity. This management plan establishes objectives, priorities and tasks to monitor, manage, maintain and report on the waters of the U.S. and/or State Waters and their associated protected buffers, covered species and covered habitat on the mitigation. This LTMP will be implemented in accordance with the requirements for the obtained Corps Individual Permit and Virginia DEQ Individual Permit, Final Mitigation Plan, and the site protection instrument (declaration of restrictions) covering the mitigation site.

C Long Term Steward and Responsibilities

At this time, HGS, LLC has been designated the temporary Long-Term Steward for the mitigation site. The Long-Term Steward, and subsequent Long-Term Stewards upon transfer, shall implement this LTMP, managing and monitoring the mitigation site in perpetuity to preserve its habitat and conservation values in accordance with the IP and Final Mitigation Plan, conservation easement and/or declaration of restrictions, and the LTMP. Long-term management tasks shall be funded through the Long-Term Management Fund. The Long-Term Steward must maintain a copy of the IP, Final Mitigation Plan, and all addendums associated with the mitigation site including all deed restrictions and easements. The Long-Term Steward shall be responsible for providing an annual report to the Norfolk District U.S. Army Corps of Engineers ("Norfolk District Corps") and the Virginia DEQ detailing the time period covered, an itemized account of the management tasks and total amount expended. Any subsequent grading, or alteration of the mitigation site's hydrology and/or topography by the Long-Term Steward or its representatives must be approved by the Norfolk District Corps with Virginia DEQ to be notified and the necessary permits, such as a Section 404 permit and/or Virginia Water Protection Permit, must be obtained if required.

D Eminent Domain

If the mitigation site is taken in whole or in part through eminent domain, the Long-Term Steward shall use all monies it receives as compensation for lands and all associated services and values taken to provide replacement compensation within the same Geographic Service Area subject to Norfolk District Corps approval with Virginia DEQ to be notified. The Norfolk District Corps and the Virginia DEQ will have the right to

participate in any proceeding associated with the determination of the amount of such compensation. Replacement compensation may be determined in consultation with the Norfolk District Corps and the Virginia DEQ.

II Property Description A Setting and Location

The mitigation site is located in Cumberland County, in the Commonwealth of Virginia, and is located across Parcels No. 38-A-7, 45-A-1, 45-A-7, 44-A-21, 44-A-20, 37-A-69, 37-A-70, and 37-A-63. The mitigation site is shown on the general Vicinity Map and the Mitigation Site Location Map provided in the Final Mitigation Plan. The general Vicinity Map shows the mitigation site location in relation to cities, towns, or major roads, and other distinguishable landmarks. The Mitigation Site Location Map shows the property boundaries on a topographic map.

B Cultural Resources

Multiple archaeological and architectural resources are located within the parcels where the Green Ridge Recycling and Disposal Facility Stream Restoration project is located. However, the stream mitigation work will not take place immediately near these resources and will not adversely affect these historical resources.

C Existing Easements

Please see the Existing Conditions Map found in the Final Mitigation Plan.

D Existing Man-Made Structures

There are a few man-made structures located on the same parcels as the mitigation area and they are mostly housing and domestic structures. The actual mitigation areas are not located near these structures, and they will not be affected by this project. The actual mitigation area is located within cleared fields and forested areas. Similarly, while roads, fences or gates may exist across the project parcels, they are not located within the immediate mitigation area and won't be affected by the proposed mitigation work.

III Habitat and Species Descriptions

A Baseline Description of Biological Resources on Mitigation Site

Habitat within the PRM site is made up of mostly of forested habitat with smaller portion of cleared areas maintained as fields. Evidence of recent timbering was noted in portions of the project area. The streams located on site have been impacted by the historic land clearing and agricultural practices that have occurred on site. These streams have seen increased runoff resulting in increased incision of the stream bed and widening and erosion of the stream banks. Baseline conditions are outlined in the Final Mitigation Plan. There are existing pockets of wetlands within the proposed PRM site.

B Final Map

Please see the Final Mitigation Plan.

IV Management and Monitoring

The overall objective of long-term management is to foster the long-term viability of the mitigation site's streams and their associated buffers, and any listed species/habitat. Routine monitoring and minor maintenance tasks are intended to assure the viability of the mitigation site in perpetuity.

A Biological Resources

The approach to the long-term management of the mitigation site's biological resources is to conduct annual mitigation site examinations and monitoring of selected characteristics to determine stability and ongoing trends of the preserved, restored, and enhanced streams and their associated buffers. Annual monitoring will assess the mitigation site's condition, degree of erosion, establishment of Invasive, Nuisance, and Undesirable (INU) or non-native species, water quality, fire hazard, and/or other aspects that may warrant management actions. While it is not anticipated that major management actions will be needed, an objective of this LTMP is to conduct monitoring to identify any issues that arise; and use adaptive management to determine what actions might be appropriate. Those chosen to accomplish monitoring responsibilities will have the knowledge, training, and experience to accomplish monitoring responsibilities.

Adaptive management means an approach to natural resource management which incorporates changes to management practices, including corrective actions as determined to be appropriate by the Norfolk District Corps and the Virginia DEQ in discussion with the Long-Term Steward. Adaptive management includes those activities necessary to address the effects of climate change, fire, flood, or other natural events. Before considering any adaptive management changes to the LTMP, the Norfolk District Corps and the Virginia DEQ will consider whether such actions will help ensure the continued viability of the mitigation site's biological resources.

The Long-Term Steward for the mitigation site shall implement the following as appropriate:

Element A.1 Streams and their associated buffers

Objective: Monitor, conserve and maintain the mitigation site's streams and associated buffers. Limit any impacts to the streams and their associated buffers from vehicular travel or other adverse impacts.

Task: At least one annual walk-through survey will be conducted to qualitatively monitor the general condition of these habitats. General topographic conditions, hydrology, general vegetation cover and composition, INU species, erosion, will be noted, evaluated and mapped during a site examination. Notes to be made will include observations of species encountered, general extent of wetlands, and any occurrences of erosion, structure failure, or INU species establishment.

Task: Establish reference sites for photographs and prepare a site map showing the reference sites for the mitigation site file. Alternatively, utilize photographic reference sites, if any, developed during the interim mitigation site management period. Reference

photographs will be taken of the overall mitigation site at least every five years from the beginning of long-term management, with selected reference photos taken on the ground more frequently ***(if applicable)***.

Special attention should be paid to any area adjacent to or draining from non- mitigation site lands. Streams and wetlands, and their associated buffers, should be observed near mitigation site boundaries to observe if increased sediment deposition has occurred. The report should provide a discussion of any recent changes in the watershed (i.e., subdivision being developed upstream of stream mitigation site).

Element A.2 Threatened/Endangered Plant Species Monitoring

Not applicable.

Element A.3 Threatened/Endangered Animal Species Monitoring

Not applicable.

Element A.4 Invasive, Nuisance, and Undesirable (INU) Species

INU species threaten the diversity or abundance of native species through competition for resources, predation, parasitism, interbreeding with native populations, transmitting diseases, or causing physical or chemical changes to the invaded habitat.

Objective: Monitor and maintain control over INU species that diminish mitigation site quality for which the mitigation site was established. The Long-Term Steward shall consult the *Virginia Department of Conservation and Recreation's Invasive Alien Plant list* at http://www.dcr.virginia.gov/natural_heritage/documents/invlist.pdf as well as the definition of INU species in the INU Management Plan for the mitigation site for guidance on what species may threaten the site and on management of those species.

Task: Monitor any new introduction or expansion of INU species compared to the Invasive Vegetation Map provided at mitigation site closure.

Task: Each year's annual walk-through survey (or a supplemental survey) will include a qualitative assessment (e.g. visual estimate of cover) of INU species. Additional actions to control INU species will be evaluated and prioritized in coordination with the Norfolk District Corps and the Virginia DEQ.

Task: Develop and implement a management plan to control/manage INU species on the mitigation site.

B Security, Safety, and Public Access

The mitigation site will be fenced or appropriately marked and shall have no general public access, nor any regular public use. Research and/or other educational programs or efforts, hunting, fishing, and passive recreational activities may be allowed on the mitigation site as deemed appropriate by the Norfolk District Corps and the Virginia DEQ and as provided for in the site protection instrument; but are not specifically funded or a part of this LTMP.

Potential wildfire fuels will be reduced as needed where approved by the Norfolk District Corps with the Virginia DEQ to be notified.

Element B.1 – Trash and trespass

Objective: Monitor sources of trash and trespass.

Objective: Collect and remove trash, repair vandalized structures, and rectify trespass impacts.

Task: During each site visit, record occurrences of trash and/or trespass. Record type, location, and management mitigation recommendations to avoid, minimize, or rectify a trash and/or trespass impact.

Task: At least once yearly collect and remove as much trash as possible and repair and rectify vandalism and trespass impacts.

C Infrastructure and Facilities

[*Fence and gate maintenance and repair frequency will be dependent on trespass and access control issues, as well as whether grazing is utilized as a vegetation management technique or otherwise allowed and to what extent.]*

Element C.1 Signage, and Property Boundaries

Objective: Monitor condition of signage and property boundaries.

Objective: Maintain signage and property boundaries to prevent casual trespass, allow necessary access, and facilitate management (if applicable).

Task: During each site visit, record condition of signs and property boundaries. Record location, type, and recommendations to implement repair or replacement to signage or property boundary markers, if applicable.

Task: Maintain signs and property boundary markers as necessary by replacing posts and signs. Replace signs, as necessary, and as funding allows. Note any trespass by livestock as well as any negative effects attributed to authorized livestock activities.

Element C.3 Wetland Berms, Water Control Structures, Grade Control Structures

Objective: Monitor condition of wetland berms and/or water control structures for stream mitigation, and grade control and other structures for stream mitigation, and any other mitigation practices, as appropriate.

Objective: Maintain berms and structures, etc. to facilitate management (if applicable) and maintain conditions of wetlands and streams.

Task: During each site visit, record condition of berms and structures. Record location, type, and recommendations to implement repair or replacement to berms and structures, if applicable.

Task: Maintain berms and structures, as necessary. Replace berms and structures, as necessary, and as funding allows.

D Reporting and Administration

Element D.1 – Annual Report

Objective: Provide annual report on all management tasks conducted and general mitigation site conditions to IRT and any other appropriate parties. Each report shall include a cover page with the following information: the mitigation site name, (umbrella mitigation site name if applicable), site name (if applicable), mitigation site phase (if applicable), Long-Term Steward (name, address, phone number, and email address), monitoring year, and any requested action (e.g. funding release, maintenance recommendations requiring Norfolk District Corps approval with the Virginia DEQ to be notified).

Task: Prepare annual report and any other additional documentation. Include a summary. Complete and circulate to the Norfolk District Corps, the Virginia DEQ, and other parties by December 31 of each year. Reports should be distributed electronically.

Task: Make recommendations with regard to 1) any enhancement measures deemed to be warranted, 2) any problems that need near-, short-, and long-term attention (e.g., weed removal, fence repair, erosion control), 3) any changes in the monitoring or management program that appear to be warranted based on monitoring results to date, 4) and provide documentation that the Long-Term Steward (if not an individual) is considered active and in good standing with the SCC. Provide documentation of the cost of any recommended maintenance and repairs.

Task: Provide a copy of the LTM Fund end of year statement that indicates the balance in the fund, interest accrued, withdrawals made, etc.

Element D.2 – Administrative & Contingency Fees

Objective: Provide funds for regular administrative costs incurred as a result of administrative tasks, maintenance of escrow, endowment, or other funding accounts, etc. These funds shall be paid from the interest of the account and not the principal funds.

Task: Pay all regular administrative or other fees through this task.

Element D.3 – Defense of Easement or Other Real Estate Issues

Objective: Ensure the perpetual protection of and address any encroachments on the property on which the wetland and stream mitigation activities occurred.

Task: Maintain conservation easements, declarations of restriction, or other protective instruments intended to protect the mitigation site.

Task: If the property is owned by the Sponsor or stewardship organization, assist in resolving real estate issues, such as property taxes, title considerations, Virginia Land

Conservation Incentives Act, relevant county initiatives, mineral rights, easements and maintenance, and conservation, water or other district assessments.

Task: If the LTS is not the easement holder, then coordination/cooperation with the easement holder.

Task: Hire attorney or other legal representation for defense of easement or other proceedings, where necessary.

V Transfer, Replacement, Amendments, and Notices A Transfer

Any subsequent transfer of responsibilities under this LTMP to a different Long-Term Steward shall be requested by the Long-Term Steward in writing to the Norfolk District Corps with the Virginia DEQ to be notified, will require written approval by the Norfolk District Corps, and will be incorporated into this LTMP by amendment.

The long-term steward shall be required to ensure that any subsequent property owners (if not identified as the long-term steward) are notified of the deed restriction, conservation easement, purpose and location of the mitigation site lands, and requirements for long-term stewardship.

B Replacement

If the Long-Term Steward fails to implement the tasks described in this LTMP and is notified of such failure in writing by any member of the Norfolk District Corps and/or the Virginia DEQ, the Long-Term Steward shall have 90 days to correct such failure. If failure is not corrected within 90 days, the Long-Term Steward may request a meeting with the Norfolk District Corps and the Virginia DEQ to resolve the failure. Such meeting will occur within 30 days or a longer period if approved by the Norfolk District Corps with DEQ to be notified.

Based on the outcome of the meeting, or if no meeting is requested, the Norfolk District Corps may designate a replacement Long-Term Steward in writing by amendment of this LTMP with Virginia DEQ to be notified. If the Long-Term Steward fails to designate a replacement Long-Term Steward, then such public or private land or resource management organization acceptable to and as directed by the Norfolk District Corps, with the Virginia DEQ to be notified, may enter onto the mitigation site property in order to fulfill the purposes of this LTMP.

C Amendments

The Long-Term Steward**,** property owner**,** the Virginia DEQ, and the Norfolk District Corps may meet and confer from time to time, upon the request of any one of them, or at a minimum every five years, to revise the LTMP to better meet management objectives and preserve the conservation values of the mitigation site. Any proposed changes to the LTMP will be discussed with the Virginia DEQ, the Norfolk District Corps, and the Long-Term Steward.

Any proposed changes will be designed with input from all parties. Amendments to the LTMP will be approved by the Norfolk District Corps in writing with DEQ to be notified, will be required management components and will be implemented by the Long-Term Steward.

D Notices

Any notices regarding this LTMP will be directed as follows:

Long-Term Steward

HGS, LLC
1408 B Roseneath Road
Richmond, VA 23230

Property Owner(s)

Green Ridge Recycling and Disposal Facility, LLC
12230 Deerhill Road
Midlothian, VA 23112

Sunny Martin Agee & Edward Martin
3679 Ellisville Drive
Louisa, VA 23093

Blake A Martin & Diedre A.
448 Pinegrove Road
Cartersville, VA 23027

VI Funding and Task Prioritization

A Funding

Table 1 summarizes the anticipated costs of long-term management for the mitigation site. These costs include estimates of time and funding needed to conduct the basic monitoring site visits and reporting, trash removal, fence repair, etc. a prorated calculation of funding needed to fully repair and/or replace fences and other structures once every year, and funding for catastrophic event assessment and repair. The total annual funding anticipated is approximately $4,080.00, therefore, with the current annual estimated capitalization rate of 3.5% the total endowment amount (The Long-Term Management Fund) required will be $116,570.00.

The National Fish and Wildlife Foundation shall hold the endowment principal and interest monies (The Long-Term Management Fund) as required in the Final Mitigation Plan, which consists of monies that are paid into it in trust and is appropriated to fulfill the purposes for which payments into it are made. These interest monies will fund the long-

term management, enhancement, and monitoring activities on mitigation site lands in a manner consistent with this LTMP.

B Task Prioritization

Due to unforeseen circumstances, prioritization of tasks, including tasks resulting from new requirements, may be necessary if insufficient funding is available to accomplish all tasks. The Long-Term Steward, the Virginia DEQ, and the Norfolk District will discuss task priorities and funding availability to determine which tasks will be implemented. In general, tasks are prioritized in this order: 1) required by a local, state, or federal agency; 2) tasks necessary to maintain or remediate the mitigation site (including unauthorized impacts); and 3) tasks that monitor resources, particularly if past monitoring has not shown downward trends. Equipment and materials necessary to implement priority tasks will also be considered priorities. Final determination of task priorities in any given year of insufficient funding will be determined in consultation with the Norfolk District Corps and the Virginia DEQ and as authorized by the Norfolk District Corps in writing with the Virginia DEQ to be notified.

C Enforcement

The Norfolk District Corps, the Virginia DEQ, and its authorized agents will have the right to inspect the Property and take actions necessary to verify compliance with this LTMP. The LTMP herein shall be enforceable by any proceeding at law or in equity or administrative proceeding by the Norfolk District Corps and/or the Virginia DEQ. Failure by any agency (or owner) to enforce the LTMP contained herein shall in no event be deemed a waiver of the right to do so thereafter.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the date herein below last written.

_____ _____

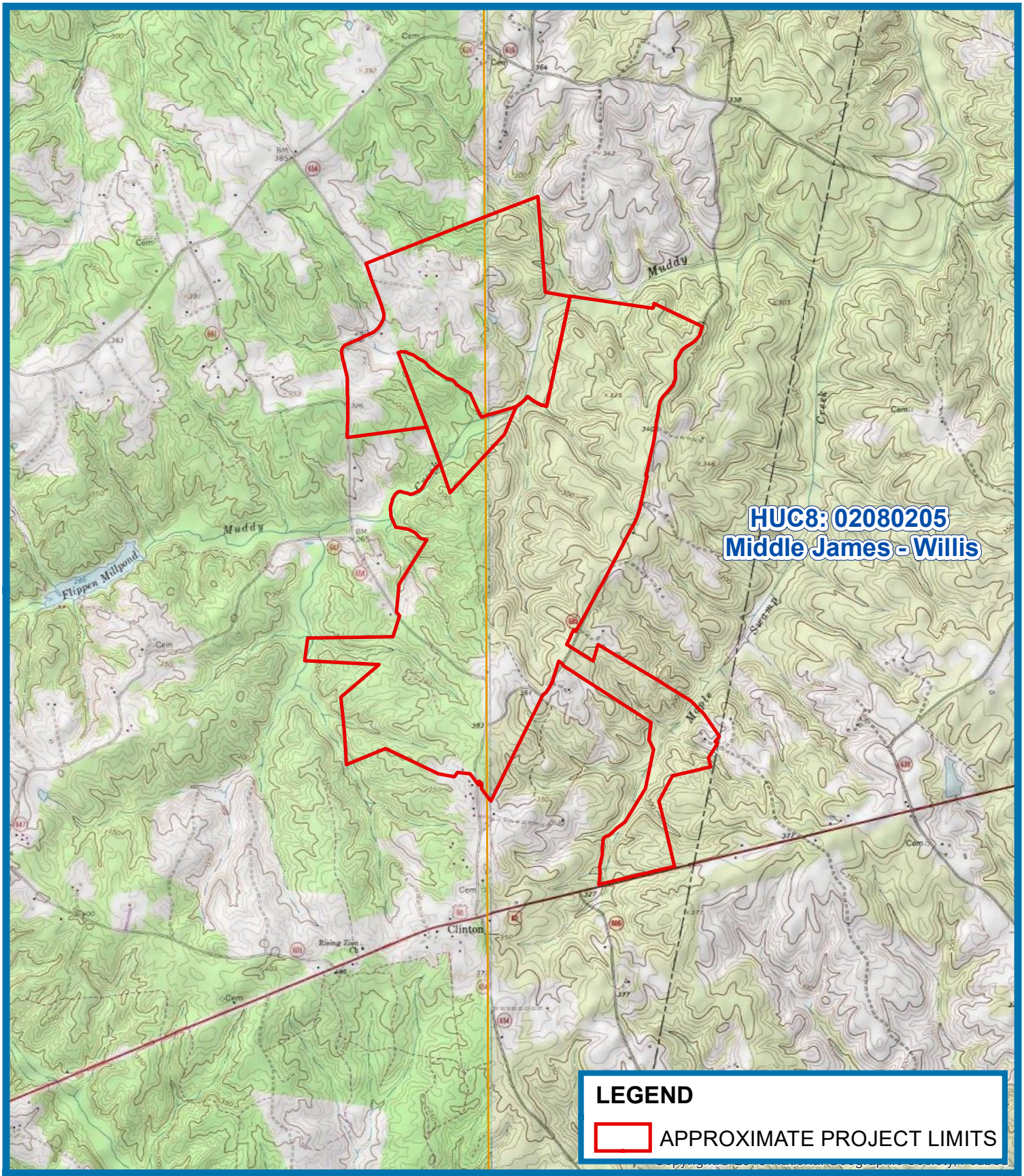
Mitigation Site Sponsor Date

_____ _____

Long-Term Steward Date

Table 1: Long-Term Management Fund - Endowment Analysis									
General Management Activities		**Description**	**Unit**	**Number of Units**	**Cost per Unit**	**Cost**	**Frequency**	**Schedule**	**Annual Funding**
Wetland Berms and Water Control Structures									
	Survey and Assess Structures	Walking survey; notes, photos	Hours	8	$75	$600	Once every year	Any time	$600
	Repair/Replace Structures	Materials and Labor	1 structure	2	$500	$1000	Once every year	Any time	$1000
Vegetation									
	Vegetative Assessment	Walking survey; notes, photos	Hours	4	$75	$300	Once every year	Any time	$300
	INU Species Management	Develop and implement a management plan if needed	Hours	8	$75	$600	Once every year	Any time	$600
Signage									
	Signage	Signs	Per Site	4	$100	$400	Once every 10 years	Any time	$40
	Signage Inspection and Repair	Walking survey and repair	Hours	4	$63	$252	Once every year	Any time	$252
Trash and Trespass									
	Trash	Walking survey, trash removal and disposal	Hours	4	$75	$300	Once every year	Any time	$300
	Trespass	repair trespass impacts	Hours	4	$75	$300	Once every year	Any time	$300
Reporting and Administration									
	Monitoring Documentation	Report preparation and submittal	Hours	4	$75	$300	Once every year	By 12/31 every year	$300
	Defense of DOR	Review	Hours	4	$150	$600	Once every 10 years	Any time	$60
	Administration/ Contingency		Percent	30%	$3,092	$928	Annual		$928
								TOTAL ANNUAL FUNDING AMOUNT	**$4,080**

Long-Term Management - Target Endowment Amount	
Annual Funding Requirement	$ 4,080
Capitalization Rate	3.50%
Endowment Amount	**$ 116,570**



res
CORPORATE | 6575 WEST LOOP SOUTH, SUITE 300, BELLAIRE, TX 77401
P: 713.520.5400
www.res.us

PROJECT LOCATION MAP

GREEN RIDGE LANDFILL

CUMBERLAND COUNTY, VIRGINIA

USGS Topo Quads: Whiteville, Trenholm
Latitude: 37.5647
Longitude: -78.1217
Approx. Project Area: 1,729.40 acres
Elevation: 236 - 388 feet
Scale: 1 inch = 3,000 feet
Source: http://resources.arcgis.com/ USA Topo Maps

N